MAHĀBHĀRATA

MYTH AND REALITY

Differing Views

Editors
S.P. GUPTA
K.S. RAMACHANDRAN

Foreword by
NIHARRANJAN RAY



AGAM PRAKASHAN
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Foreword

The editorial authorities of this volume have done me honour in asking me to write a foreword to introduce it to its prospective readers. I have been following, not very closely though, the recent controversy among scholars and writers in regard to the historicity of the great epic of ours, the *Mahābhārata*, which forms the main content of this volume. But not being given to polemical exercises irrespective of their being scholastic, intellectual or otherwise, I did not feel tempted to voice any opinion. Besides, I thought that there was nothing in my personal point of view which deserved communication to scholars and experts in the field; I would rather remain content, I considered, by allowing my point of view in this regard to inform and colour my own humble articulations in the field of Indian history and Culture wherever and whenever this was relevant. But since I have been persuaded to write this foreword. I propose to do exactly what I would have done to myself, namely, to clarify my personal point of view for my own benefit, and nothing more.

Textual analysis and criticism is a part of literary and historical research; insofar as the *Mahābhārata* is concerned such analysis and criticism have been going on for well-nigh one hundred years, and today one knows a few things which are more or less beyond dispute. One may say that the *Mahābhārata* is an epic consisting of a central or core-legend, that of the family feud leading to the Kurukṣetra war between the Kauravas and another collateral of theirs, the Pāṇḍavas, around which was clustered, over a long period of time, but in stages, a number of other minor floating legends (*gāthās, ākhyānas, etc.*),

all mythicized in course of time, by not one single person but by a succession of persons of considerabe creative vision and imagination and of equally considerable power of poetic articulation They were all called *vyāsas* or compilers, presumably the reason why the authorship has been attributed to one great Vyāsadeva

One also knows that the *Mahābhārata* categorizes itself as *itihāsa* (*iti ha āsa* verily it is what actually was), and not as *gāthā*, *ākhyāna*, *ākhyāyikā*, *upākhyana* or *purāna*, literary categories which were certainly known to the *vyāsas* of the epic Which means that they knew what was in those distant days considered traditionally as *itihāsa*, that is, they had their own concept of history and they were recording what they believed to have taken place in a certain sequence of time and at certain places, at any rate in regard to the core story of the epic which was their, and I believe, ours as well, main concern I am quite conscious that their conception of *itihāsa* is not our conception of history today. Indeed, the two concepts are poles apart, and I would not have even raised the issue had it not been for the fact that we experts, scholars and intellectuals, constitute a very small, microscopic minority of the vast sea of India's ever renewing humanity Our findings are not in the realm of scientific truths, like Nev ton's or Galileo's, for instance, where a discovery tears asunder age-old notions, beliefs and faiths and brings about a new world of facts, ideas and visions Historians operate mainly, but not exclusively, I believe, in the field of facts and situations which are well-documented, they operate also ard at the same time in that of ideas and concepts, visions and imaginations, signs and symbols, myths and legends, etc, which have all their haunts in the mirds and behaviour-patterns of live men and women with whom history is certainly concerned In the history of a culture and civilization of a people as of the traditional Indians, all these are and have been an important stuff of their life and behaviour-pattern through the centuries

And the people of traditional India have been believing that the *Mahābhārata*, despite its being a store house of legends and stories, is an *itihāsa* or history according to their conception, since it records at its core the story of the Kuru Pandavas, the

Pañcālas and a host of other contemporary *janas*, as faithfully as the live story of a fraternal feud leading to a devastating war could be, but all put in a literary form by an imaginatively effective poet. They have been singing and reciting it through the ages and allowing the characters, events and situations presented in it, affect their lives very deeply and widely. They have been believing this core story at any rate, as a true interpretation of what had actually happened at a given time and place. In other words, the *Bhāratayuddha-kathā* has been, through the centuries, woven into the very texture of India's life and culture, and is thus an important and inalienable part of the lives of countless millions of people of this land, and hence an essential fact of Indian history, and this, even from the point of view of the modern concept of history. I would not, therefore, be hyper-critical and say that insofar as this particular item of India's *itihāsa* is concerned, our ancestors of traditional India were all steeped in a world of make-belief and considered mere *ākhyānas* and *upākhyānas*, etc., as facts of *itihāsa*. The *Mahābhārata* is too precious a document of Indian life to be lightly pushed aside as unhistorical. Here is perhaps an instance of a historical fact being mythicized, and then the myth itself becoming a part of history, not very much unlike in what happened, much later, in the mythicization of historical characters like those of Alexander and Charlesmagne.

II

At the same time I must admit the *Mahābhārata* may not be a historical document according to the modern concept of history and that of "documents" which provide the raw materials of history. Frankly, it is a *Mahākāvya*, an epic poem, a great one, involving poetic fancies, visions, imageries, interpretations, teachings, etc. To me, it seems futile, therefore, to try to test its historicity in direct and straightforward archaeological findings and in absolutely proven and known facts of history. But this is not to say all at once that in the core of the *Bhāratayuddha-kathā* there is no sub-stratum of historical truth, one that lies, at the bottom of layers upon layers of poetic *alaṁkāras*.

Various attempts have been made to identify this sub-stratum

and to find out if this sub-stratum had any basis in actual history and archaeology, the pre supposition being that such a great event of India's ancient memory and consciousness of the past could not have been without an actual basis in positive facts The results of this long series of attempts are but too well known to experts in the field One need not, therefore, recount them except for reminding ourselves that the story of the Bhārata war is the story of live people of flesh and blood caught up in live situations of human and worldly conflict, and that it is not story of divine and semi-divine beings, of magical and supra-natural happenings, of demons and *rākṣasās*, of *gandharvās* and *kinnarās*, of sub human or super-human realities, for instance

I would, therefore, for the purpose of this foreword, confine myself to a couple or two arguments alone, mainly geo-historical and archaeological, in favour of the relative historicity of the great Bhārata war In what I have said already, it is perhaps more than clear that I am not yet prepared to dismiss the *Bhāratayuddha katha* as a mere figment of poetic imagination

My first argument which I would present for consideration, is that of the geographical horizon of the Kuruksetra war and of the tribes and peoples that joined this war as allies of either the Kauravas or the Pandavas One point is at once clear there is no mention of any *jana* or *janapada* south of the Vindhyas and the Vindhyan plateau, which took part in the Bharata or Kurukṣetra war Which means that the geographical horizon of the *Bhāratayuddha kathā* was limited to what is roughly the entire sub continent of India north of the Vindhyas and the Vindhyan plateau, extending from Bahlika (Balkh), Kamboja and Gāndhara in the extreme north west, Sindhu-Sauvīra and the Yādava country in the south-west and Māhishmathī and Avanti in the west to Vanga, Kalinga and Pragjyotiṣapura (Kamarupa) in the east But one may take into account that king Bhagadatta of Prāgjyotisapura, who ruled over the Kirātas, was an *asura*, which presumably means that this region was at the time of the Kuruksetra war, still outside of the then Aryandom Insofar as Vanga and Kalinga are concerned one cannot help feeling that these two regions were also similarly placed and were later insertions for rhyming with

Aṅga, the Aṅga-Vaṅga-Kaliṅga triad being a later phraseological currency. For all practical purposes, therefore, the geographical horizon of the Bhārata war was limited in the east to north and south Bihar, in other words to Aṅga and Magadha. This was more or less exactly the geographical horizon of the Aryan language-speaking peoples of India at the time of the Buddha (*c*.600 B.C.) as well, but for the fact that the list of the sixteen *Mahājanapadas* of the early Pāli tradition, includes Assaka and Mulaka, and that early Buddhism knows of a city called Patiṭṭhānapura, which means that by about 600 B.C. the then Aryandom came to include a couple of *janapadas* or so, lying to the south of the Vindhyas. One may, therefore, locate in time the geographical horizon of the Bhārata war, say, a hundred or a couple of hundred years earlier than 600 B.C., that is, c.800 B.C.

But perhaps more important than the geographical horizon is the list of *janas* and *janapadas* that participated in the Bhārata war on either side. Even the major *janapadas*, Vatsa (Matsyas), Kāśī, Cedī, Daśārṇa, Pañcāla and Vṛṣṇi on the Pāṇḍava side, and Magadha, Aṅga, Videha, Kośala, Māhiṣmatī, Avantī, Bhoja-Andhaka, Niṣāda, Śālva, Vidarbha, Sindhu-Sauvīra, Gāndhāra, Trigartta, Kekaya, Sibi, Madra, Bāhlīka, Kshudraka, Mālva, Ambaṣṭha and Kamboja on the Kaurava side, make up a formidable list. Altogether well-nigh thirty *janas* and their *janapadas* seem to have been involved in this war.

It is well-known that round about 600 B.C. there were sixteen *mahājanapadas* in more or less the same geographical area, two alone lying to the south, outside of this area. It is known further that these sixteen *mahājanapadas* were by about 400 B.C., reduced to four, and by about 324 B.C., to only one which was the great and sprawling Maurya empire. Here was thus a political process at work, a process of formation of larger and larger states obliging the smaller ones to merge themselves into the larger and more powerful ones on the one hand and transforming the tribal oligarchical ones to monarchical ones on the other. This political process was at the same time a civilizing process as well inasmuch as it transformed, slowly and steadily, small *jana* or tribal communities to larger and larger socio-political units.

ANCIENT INDIA

Showing local & tribal names

100 0 100 200 MILES

KEKAYA
BHARAT
(TRITSU)
KURU
SRINJAYA
SALIAS
MATSYA
SATVANT
PANCHALA
(KRIK)
KIRATA
USINARA
VATSA
CHEDI
KAUSAMBI
NISHADA
VIDEHA
PRAGJYOTISHA
ANGA
VANGA

were used by the fighting forces included bows and arrows, spears or javelins and knives or daggers (Nakula and Sahadeva are said to have specialized in fencing) in the main, *cakra* and *pāśa* (noose) which seem to have been used as a boomerang, *gadā* or *musala* (club) made presumably of wood but could also be of stone. discs and axes, presumably of stone or/and copper. The weapons in which alone iron seems to or may actually have been used are the heads of arrows and spears or javelins, and the knives and daggers. And this agrees very well indeed with what we know to date of the discovery of iron weapons and implements in India before c.500 B C In fact, iron arrow-heads, spear or javelin-head, knives and daggers (but no other iron-made weapons of war) are known to have been found along with other iron implements from the many iron-yielding Painted Gray Ware levels (c.1000 to 500 B.C.) in northern India spread over from Taxila in the northwest to the Ajay-Mayūrākṣi valley in the east. A date round about 800 B.C. for the great *jana* war of proto-historic India, called the Bhārata war (since all the important tribes of the then Aryan language-speaking Bhārata were involved in it) or the Kurukṣetra war (since the war was fought on the plains of Kurukṣetra), may not, therefore, be inadmissible altogether from the archaeological point of view as well.

I may be allowed to offer one more argument, a short one but of an altogether different nature.

The *Bhāratayuddha* was fought out on the plains of Kurukṣetra. Not very far from where stand the Kurukṣetra University of today and the modern township of Thaneswar, is the dried up bed of the Sarasvatī; it must have dried up even before the war took place. It marks the great divide between the traditional Uttarāpatha and the traditional Madhyadeśa, the former comprising the Northwest Frontier Province and the Punjab of old and the latter, the entire Ganga-Yamunā valley. Indeed, the Kurukṣetra area is the beginning of the great sprawling plains of the north. It was not without reason that half-a-dozen or so wars and battles that decided the fate of India at different times of her history, were fought on the plains between the region extending from Kurukṣetra to Sonepat. Panipat, besides Kurukṣetra, being the second most important cock-pit. The

geo-political importance of the region in ancient and medieval times is thus more than clear. It is so to us today at any rate, since historians enjoy the advantage of hind-sight. But how was it that the compiler or the recorder of the *Bhāratayuddha-kathā* chose Kurukṣetra as the site of the *jana*-war, the first large-scale war of India's history? Why Kurukṣetra, within the Kuru region, and not in region of the Matsyas, or of the Cedis, or of the Pañcālas who were all staunch allies of the Pāṇḍavas, the last being the staunchest one, or why not anywhere in the Panjab, away from the Kuru region, where the Kauravas had the largest assemblage of allies? Was the choice of Kurukṣetra as the venue of the war, just a stroke of poetic imagination? Or, could it be that beneath the layer upon layer of imaginative narration there was somewhere just a small, thin layer of historical truth for poetic imagination to get a foothold on and then spread its wings?

I do not seem to think that there is anything antecedently improbable in the story of the *Bhāratayuddha* being regarded as containing the seed of a historical fact.

III

What I have been arguing so far is, methodologically speaking, more or less in line with the well-known practice of textual analysis and historical criticism. But there is another consideration to the question of historicity or historical authenticity of the *Bhāratayuddha-kathā*, which is as important as, if not more than any other. It is sought to be argued that the Kuru-Pāṇḍava story, that is, the *Bhāratayuddha-kathā*, like the Rāma-Sīta story of the *Rāmāyaṇa*, is a myth, and the question has been posed 'Is the *Rāmāyaṇa* a myth or reality'? One could pose the question similarly about the *Mahābhārata* as well. If it has not been done, it has been implied nevertheless.

Assuming that the *Bhāratoyuddha-kathā* and the Rāma-Sītā story (in whichever version one may choose to follow) are both myths, does it follow that these are not real? I am afraid, no. Myth is not *mithyā*, not fictional or illusory; a myth is not a legend or fable, or a mere tale. In actuality it is a "true story" of the life of any society, the essence extracted out of the very

process of human life of a given time and space. A myth is an extremely complex cultural reality the foremost function of which is to reveal the exemplary models of all significant human activities in a given society, from birth to death. Indeed, myths are the most proud and meaningful possession of all early, pre-industrial revolution societies, since these incorporate deep-rooted traditions and provide "living" entities in the sense that they supply models of human behaviour, and by doing so, give meaning and value to the flowing current of life in a given social situation. Ethnologists and sociologists have been recognizing for long the importance and significance of myths in the understanding and appreciation of early and medieval human societies. It is time that historians too, did the same. A myth is a socio-psychological phenomenon, and hence a reality which historians can hardly afford to ignore. The question is not therefore "Myth or Reality?", but "Myth and Reality", and having posed it as such it should be the obligation of the historian to analyse and explain the relationship between the *Bhāratayuddha-kathā* or the Rāma-Sītā myth on the one hand and the role which these two myths played in Indian life and society on the other, wherein should lie the reality of the two myths as of any others of similar significance. So long as we take into account that a myth is as real as what is considered as a fact of history, we should be less likely to be caught in the snare of the illogical and irrelevant argument of either true or false.

6th February, 1976,
New Delhi.

NIHARRANJAN RAY

Preface

In a way this book, '*Mahābhārata—Myth and Reality*', is comparable to the *Epic* itself. For, our original intention was to bring out a brochure containing the core of the controversy as it appeared in several newspapers and magazines. In its final form, however, the book has grown almost five times its originally intended size—a phenomenal growth indeed—in about eight months, from its embryonic stage to its adulthood. The original *Epic* attained its present form over several centuries, but ours has kept pace with the speed of the Space Age.

In this monograph we have included considered views of forty-one leading scholars of the country, most of whom have been kind enough to respond quickly to our request; often revising their earlier opinions expressed in the newspapers. The entire frame-work of the monograph has, therefore, changed in accordance with the response from our learned contributors. However, the first fifty pages of the Introduction contains the core of the monograph while the rest represents the views of our contributors. We have also added an epilogue incorporating a few comments on some select views expressed here.

In bringing out a book of this kind we have been fortunate to receive unstinting cooperation and help of several persons. To them we are thankful. To our contributors we are beholden; but for whom this book would not have been possible Among them, we would like to express our gratefulness to Prof. R.C. Majumdar who, inspite of his ailment and against medical advice, responded to our request. To Professor Niharranjan Ray, however, we owe a special word of thanks for the foreward, who, inspite of his pre-occupation with Indo-U.S. Exchange Programme, could find time to respond to our request. To the editors and publishers of the *Seminar* our thanks are due for permitting us reproduction of the article by Dr. Romila Thapar. Our gratitude are due to the Archaeological Survey of India for

allowing us to reproduce a number of photographs from their excavations conducted at Hastināpura and Bhagwānpurā; to Prof. G.R. Sharma of the Allahabad University for giving permission to reproduce a plate of the Kauśāmbī Painted Grey Ware appearing in the report of his excavations and also to the Head of the Department of History, Aligarh University, for the photographs of iron objects recovered from the excavations at Atranjikhera.

Our thanks are due to Dr. (Miss) Shashi Asthana, who has prepared the Index.

Line drawings in the monograph were very kindly prepared by Shri M.S. Mani of the Archaeological Survey of India and Shri Mohan Lal of the National Museum, New Delhi. Shri B.B. Dutta and Shri R.L. Sehgal of the Archaeological Survey of India, prepared the typescript. To all of them, we express our thanks.

To Shri I.C. Mittal and Shri Agam Prasad of the D.K. Publishers' Distributors, Delhi and Agam Prakashan, we are extremely thankful for the unstinting cooperation.

It is our earnest hope that this book will be widely read paving way to new and comprehensive researches. For, as the Tamil saying goes, 'whatever we know is only a handful; what we do not know is as large as the world itself'. We welcome comments and views of every one interested in the subject so that we may be able to incorporate them in our next edition.

1st July, 1976,
New Delhi.

S.P. Gupta
K.S. Ramachandran

Abbreviations

ABORI	*Annals of the Bhandarkar Oriental Research Institute*
AI	*Ancient India*, Bulletin of the Archaeological Survey of India
AI / *AIC*	S.B. Roy, *Ancient India—a Chronological Study*
AIHT	F.E. Pargiter, *Ancient Indian Histrocial Traditions*
BSS	*Baudhāyana Śrauta Śūtra*
BU	*Brahadāraṇyaka Upaniṣad*
CAH	*Cambridge Ancient History*
Enc. Britt.	*Encyclopaedia Brittanica*
Ep. Ind.	*Epigraphia Indica*
IAR	*Indian Archaeology—A Review*
ICWTC	*India's Contribution to World Thought and Culture*
IHQ	*Indian Historical Quarterly*
Ind. Ant.	*Indian Antiquary*
JBORS	*Journal of the Bihar and Orissa Research Society*
JISOA	*Journal of the Indian Society of Oriental Art*
JRAS	*Journal of the Royal Asiatic Society, London*
LHP	Late Harappan Pottery
NBPW	Northern Black Polished Ware
OCP	Ochre Coloured Pottery
PAIOC	*Proceeding of the All India Oriental Conference*
PGW	Painted Grey Ware
PIHC	*Proceedings of the Indian History Congress*
PHAI	H.C. Roychoudhary, *Political History of Ancient India*
SB	*Śatapatha Brāhmaṇa*

Contents

INTRODUCTION

Pāṇini defines 'Bhārata' as the battle "of the Bhāratas". Hence *Mahābhārata* would mean the 'great narrative of the battle of the Bhāratas. In the *Mahābhārata* itself we come across the suggestion : महत्त्वाद् भारतत्वाच्च महाभारतमुच्यते—it is known as Mahābhārata because of its greatness, enormous size and import, implying that the work 'out-weighs the Vedas and other sacred literature of India'. This also could be interpreted in a different way, viz., महत्त्वाद् भारतत्वात्—implying 'greatness and Indianness' ; hence *Mahābhārata.*

The *Ṛgveda* mentions the Bhāratas as a martial race holding sway over the region lying between the Gaṅgā and the Yamunā. The story of the Bhāratas—the *Mahābhārata*—deals in detail the fierce family fight between the Kauravas–the Kurus and the Pāṇḍavas—the Pāñcālas, the two warring tribes. In this warfare the Pāṇḍavas came out victorious annihilating their brethern, the Kauravas, headed by Duryodhana. The Pāṇḍavas were led by Yudhiṣṭhira. This family fight formed the nucleus of the epic *Mahābhārata.* Around this nucleus developed the epic as we have it today. The main events recounted in the epic are given below :

1. Pāṇḍavas return to Hastināpur from their abode in the forest.
2. Events occur which create mutual jealousy in the minds of the Pāṇḍavas and the sons of Dhṛtarāṣṭra.
3. Duryodhan leaves Bhīma in the Gangā after poisoning him ; he also attempts to kill him by snake bite.
4. The construction of a house of shellac (जतुगृह) and an attempt to burn the Pāṇḍavas alive in it.
5. Pāṇḍavas foil the attempt by escaping from the house through an underground passage and taking shelter in the forest.

6. While in the forest, Bhīma, encounters a fight with the demoness Hiḍimbā and defeats her. The birth of Ghaṭotkaca, the son of Bhima and Hiḍimba.
7. Pāṇḍavas reside with a Brāhmaṇa in the town of Ekachakra. Bhīma kills Bakāsur during this stay.
8. Pāṇḍavas leave the town to attend the Swayamvara ceremony preceding Draupadī's marriage. All the five sons of Pāṅḍu marry Draupadī.
9. Return of the Pāṇḍavas to Hastināpur.
10. Dhṛtarāṣṭra gives away half of his kingdom (viz., the Khāṅḍavaprastha) to the Pāṇḍavas.
11. Pāṇḍavas rule in Khāṅḍavaprastha for some years.
12. Pāṇḍavas commence a Rājasūya Sacrifice to prove their sovereignty over the whole earth.
13. Arjuna goes to unknown places in an exile (अज्ञातवास:) for *thirteen months*, as punishment for encroaching upon the secret meeting of Yudhiṣṭhira and Draupadī.
14. Arjuna gets the hand of Subhadrā, Shri Kṛṣṇa's sister, in marriage, while in exile.
15. The huge fire of the Khāṅḍava forest and the saving of Māyāsura from it.
16. The construction of a Hall by Māyā.
17. The historic gambling. Pāṇḍavas loose to Kauravas.
18. Pāṇḍavas accept an exile for 12 years and residence for one year more in an unknown place. (They reside with the King Virāṭa).
19. Pāṇḍavas return from their exile and demand the return of their lost kingdom from Dhṛtarāṣṭra.
20. The memorable Bhārata Battle. Duryodhana is killed in the battle along with his colleagues, and Pāṇḍavas get the whole of his Empire[1].

(This story was written in a volume comprising one hundred chapters.)

As already observed, the *Mahābhārata* available to us to-day in its grand and gigantic form includes—(i) legendary matter from the bardic repertoire having but a casual connection (or no connection at all) with the epic heroes; (ii) myths and

[1] Vaidya, R.V., *A Study of Mahābhārata—A Research*, Poona, 1967, pp. 7-8.

तत्क्वचित् ॥ "whatever is (present) here (in the *Mahābhārata*) may be found elsewhere ; what is not (present here) cannot be found anywhere else" ; and again व्यासोच्छिष्टं जगत्सर्वम्—Vyāsa has touched (dealt with) every subject in this world, justified the enormity, greatness cyclopaedic knowledge contained in this great epic.

Naturally, such a great work could not have been the handiwork of one single person, nor composed in any one single time bracket. Scholars recognise at least three redactions in the *Mahābhārata* as we have to-day.[1] The first one is by Kṛṣṇa Dvaipāyana Vyāsa consisting of 8,800 verses, called *Jaya* ; the second by Vaiśampāyana comprising 24,000 verses, known as *Bhārata*, and the third (the present form) composed of a lakh of verses called the *Mahābhārata* was given to us by Sauta. For convenience, a tabulated form of the redactions is given on page three (Table 1).[2]

THE CONTROVERSY : GENESIS AND PROGRESS

On the fourteenth of September 1975, Dr. D.C. Sircar, an eminent epigraphist and a former Chief Epigraphist to the Government of India, declared unequivocally to the UNI that the Mahābhārata was a myth, devoid of little historicity, opening, as it were, the flood-gates of controversy all over the country. Traditional Sanskritic and Vedic scholars, historians and archaeologists have come down with an avalanche of articles and letters expounding their pet views and theories. Yet, this is not the first time such a controversy has been raked up. Let us now consider the commencement of the present controversy and how it progressed as time went by.

D.C. Sircar

Sircar, the originator of the controversy, now believed that the nuclues of the *Mahābhārata* was only a simple war-song of a "petty family or tribal fued" around which the legend of the epic developed at a much later time.

[1] *Mahābhārata*, Critical Edition, I, 56, 33.
[2] Vaidya, *op cit*, 1967, p. 11.

Sircar's main contentions are:

(*i*) there is no reference to the Great War in the Vedic literature;

(*ii*) the exact period when the Mahābhārata event took place was uncertain even to the people of ancient India;

(*iii*) the Bhārata war has not been mentioned in the literature prior to 4th century B.C. ;

(*iv*) Kurukṣetra, the scene of the famous battle, does not figure in the Vedic literature as a battle field; and

(*v*) the very presence of several traditions in the *Mahābhārata*, according to Sircar, clearly exhibit complete lack of knowledge of the Bhārata war amongst the people of ancient India. But when the story gained immense popularity among the masses and the gradual evolution of the same into an epic, assignment of a date was considered necessary and several chronological postulates came to be advanced.

As for the date of the Bhārata war there seems to be no consensus among scholars. Rebutting those who assign a date between the second and fourth millennia B.C., Sircar points out that they clash with the accepted time-bracket of the Indus Valley Civilization and the arrival of the Aryans in India; the latter being some time in the middle of the second millennium B.C. His contentions about the date can be summarized as under :

The *Kathāsaritsāgara* mentions that Udayana, king of Kauśāmbī, also a contemporary of the Buddha, was the fifth or sixth in lineal succession to Parīkṣit, a personality mentioned in the *Mahābhārata.* But the Purāṇic lists mention that Udayana was twenty-fifth in descent from Parīkṣit. This raises the problem of reconciling ten generations of priests with twenty-five generations of kings. The story in its final form portrays the war between the Kauravas and Pāṇḍavas—a struggle between the Kurus and Pañcālas. In the latter event the Parīkṣit tradition is unreliable and apparently introduced at a later date. Again, Dhṛtarāṣṭra and Parīkṣit find a place in the later Vedic literature while the main *dramatis personae*, Yudhiṣṭhira and his brothers, are totally ignored. This seems to be a factor to be reckoned within dating the epic. Further, some hold the view that the Mahābhārata war took place in the ninth-tenth century B.C. Here again it is impossible to accept this for want of any

Sircar's main contentions are:

(*i*) there is no reference to the Great War in the Vedic literature;

(*ii*) the exact period when the Mahābhārata event took place was uncertain even to the people of ancient India;

(*iii*) the Bhārata war has not been mentioned in the literature prior to 4th century B.C. ;

(*iv*) Kurukṣetra, the scene of the famous battle, does not figure in the Vedic literature as a battle field; and

(*v*) the very presence of several traditions in the *Mahābhārata*, according to Sircar, clearly exhibit complete lack of knowledge of the Bhārata war amongst the people of ancient India. But when the story gained immense popularity among the masses and the gradual evolution of the same into an epic, assignment of a date was considered necessary and several chronological postulates came to be advanced.

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reference to the war in the later Vedic literature. In this context it is rather impossible to understand why Ārya Bhaṭṭa, Varāhamihira (authors of the Gupta Period) as also the compiler of the historical section of the Purāṇas assign very early date, between the second to the fourth millennia B.C.

Further, Bhagadatta, king of Prāgjyotiṣa—identified with modern Assam—was an important figure in the *Mahābhārata.* Bhagadatta does not find a place in the later Vedic literature. In the *Aṣṭādhyāyī* of Pāṇini also we find no mention of the people of the east and south in the fifth century B.C. Hence, if we are to accept that Bhagadatta took part in the Mahābhārata war in the Haryana region he could have done so not earlier than the rise of the Nandas in the fourth century B.C. Incidentally, this would also prove that the Mahābhārata story could not have developed prior to fourth century B.C.

Finally, a word about the strength of the fighting armies. An *akṣauhiṇī* consisted of 21,870 war chariots, 21,870 of elephants, 65,610 horsemen and 109,350 foot-soldiers. This would involve about forty lakhs of fightingmen. To say that a close fight ensued involving seven to eleven *akṣauhiṇī* of warriors in a single battle field is a physical impossibility not only in days of yore but even today. This appears to be a hyperbolic poetic fancy.

Sircar is of emphatic opinion that, "all stories of earlier *digvijayas* and empire building described in the epics and the Purāṇas have to be regarded as belonging to the domain of mythology and folk-lore and not history."

But all the same, in spite of the above, Devakīputra Kṛṣṇa possibly is a historical figure for he is mentioned in the *Cāndogya Upaniṣad.*

H.D. Sankalia and Shashi Asthana

Prof. H.D. Sankalia, supporting Sircar's view, is of the opinion that, "the battle was largely a family fued and belonged to a time when the result of a battle depended primarily on individual strength and prowess." He observes that this was also the case in ancient Greece and Troy. To him, literary references of Mahābhārata are incidental and they are not to be taken at their face value. Dr. Sankalia, primarily being an archaeologist, his arguments mainly revolve around archaeological findings and deductions. He is rather critical about the date of the

Mahābhārata war. Sankalia's contentions are as follows :

Several schools of scholars advocate divergent dates, viz., 3100 B.C., 1400 B.C. and 900 B.C., for the Mahābhārata war. They are primarily scholars of "Sanskrit literature and arm-chair historians". Before accepting any of these dates one has to weigh the implications arising out of this. We have to assume that during this time fairly large sized kingdoms existed in the present day Haryana, Punjab, Sind Gujarat, Saurashtra, Kutch, Uttar Pradesh, Bihar, Assam and Kashmir. And also, that in all these areas a fairly well-developed culture and civilization prevailed. It is also imperative that the rulers here had a standing army of the major corps; their numerical strength not being taken into account. But, there is no foundation for these assumptions; for the epoch-making discoveries of the Indus Valley Civilization have pushed back the history of India to the third-fourth millennia B.C. and, about the people, Sankalia observes : "A people who had given the whole western and north-western India a well-planned and administered city-civilization, and that too for well nigh a thousand years, used comparatively simple tools and weapons of stone and copper-bronze. The most prolific of their weapons was a terracotta sling-ball found stored in huge quantities behind a defensive mud-brick wall at Mohenjo-daro and arrow-heads of copper, bronze and bone, possibly tipped with poison". Spear-heads and axes of the Harappans were devoid of sockets and had to leashed to handles, probably of wood. The professor is sceptical about the efficacy of these weapons, particularly in close combat—*dvanda yuddha*—for these will buckle on impact. If the date of the Mahābhārata war is accepted as 3000 B.C., or 1400 B.C. even, then it would follow that the epic heroes like Bhīma, Arjuna, Karṇa and others fought with insignificant looking microliths, small maceheads, sling balls of stone and terracotta (not more than 3 inches in diameter and 12 ounces in weight). For about fifteen hundred years, from Peshawar in the north to Broach in the south, and Karachi in the west to Delhi in the east, these types of weapons are common. But the difficulty in accepting these futile weapons is quite apparent. Further, the *Mahābhārata* refers to weapons made of iron which incidentally were not in regular use before the sixth century B.C. and definitely unknown before eleven hundred B.C.

Two other points emphasised by Sankalia are :

(*i*) although large armies have been involved in the battle, the role of the foot-soldier therein is nebulous, and

(*ii*) while the *Mahābhārata* refers to war chariots, cavalry as such is not mentioned.

Finally, Dr. Sankalia is of the opinion that "archaeology has conclusively proved that the critical editions of the epics are not older than the fourth or fifth centuries A.D."

Km. Shashi Asthana supports Sankalia on geographical considerations.

On the opposite camp, challenging the views of Sircar and Sankalia, are Prof. V.N. Datta and Dr. H.A. Phadke of the Kurukshetra University, Dr. V.C. Pandey of the Punjab University and Prof. V.V. Mirashi of Nagpur. Besides these veterans, those who participated in the Seminar of Vedic Scholars and Astronomers organized by the Vidur Sewa Ashram near Bijnor, Uttar Pradesh, leave no doubt about the historicity of the Mahābhārata war. Let us now consider the views of these and other eminent scholars.

V.N. Datta and H.A. Phadke

The Mahābhārata war took place long after the compilation of the *Ṛgveda*, even later than the portion which deals with Dhṛtrāṣṭra in the *Yajurveda*. Vyāsa, Parāśara, Vicitravīrya, Dhṛtrāṣṭra, Kṛṣṇa Devakīputra and Śikhaṇḍī—all are mentioned in the early literature. The *Sāṅkhyāyana Srautasūtra*, attributable to about 600 B.C., mentions that the Kurus were driven out of Kurukṣetra. This would naturally mean that the Mahābhārata war had taken place before *Sāṅkhyāyana*, *i.e.*, prior to 600 B.C.

Further, the Pāñcālas were allies and did not supercede the Pāṇḍavas. In the Purāṇic genealogy, the decendants of Bhārata Kuru in the line of Arjunas continued but the next generation of the Kauravas is not mentioned at all. This goes against the postulate that war was a myth. They also say that several *sūtras* of Pāṇini bear witness to his intimate knowledge of the geography of the region. Dr. Datta affirms that "long before the Mahābhārata battle the tradition of fighting persisted in the Kurukṣetra region, a scene of tribal conflicts of the prehistoric and early Vedic times. This tradition was popular even at the time

of Hieun T'sang's visit, in the seventh century A.D., to Kurukṣetra. He stated that a terrible fight had taken place in the Thāneśwar region in remote times so that the entire area was covered with bones which were still visible to him". In support of the above, he says that Asthipura of the Purāṇas was the site where the bodies of the dead in the battle were cremated and Cunningham has identified it correctly. The actual battle-field was somewhere between the present town of Kaithal and the village Amīn, both of which are near Kurukṣetra.

The Kurukṣetra scholars conclude their statement by posing a question : if the present sites of Hastināpura, Kurukṣ́etra, Pānīpat, Amīn, Barnāwā and Bairāṭ are not those associated with the Mahābhārata episode where are the actual sites connected with the epic and the Great War ?

V.C. Pandey and B.P. Sinha

Dr. V.C. Pandey, upholds the view that the Mahābhārata war is not a 'myth' but a reality. Prof. B.P. Sinha also feels the same.

Dr. Pandey begins by quoting that "It is never wise to reject traditions off hand; in most cases they contain a modicum of truth. Even if it be only a background for fiction". "Shorn of its literaray embellishments", he says, "the *Mahābhārata* contains a good deal of historical substance, and it is a work of great antiquity which was alluded to by *Āśvalāyana* and *Śāṅkhyāyana*. Pāṇini too has referred to the epic heroes, and even the seventh century A.D. Chinese traveller Hieun T'sang has recorded the Mahābhārata war when he says that since that war heaps of bones are lying buried in the soil of Kurukṣetra. Such a persistent tradition could not easily be brushed aside as entirely untrustworthy". If there is no reference to the Mahābhārata war in the later Vedic literature it is because the later Vedic literature developed with a predominant socio-religious background with disinterestedness in describing wars. It is also incorrect to say that the author of the *Aṣṭādhyāyī* had no knowledge of eastern India. 'Suramasa' mentioned in the *Aṣṭādhyāyī* has correctly been identified with Suranama in Assam. Further, from a careful study of the Purāṇic texts we gather that the entire northern India, covering Bihar and Bengal as well, was Aryanized in the *tretā yuga*, say by about 2400 B.C.; towards

the end of which (by 2000 B.C.) Orissa and Assam were also Aryanised. Hence, it is not a matter for surprise if the king of Assam is mentioned in the Mahābhārata war.

The divergent views about the Mahābhārata war are attributed by him to the chronological disinterestedness of the Indians; for example, even about the dates of Mahāvīra and the Buddha there is no consensus. But the historicity of either is never in doubt.

Coming to the date of the Mahābhārata war, he say that the Purāṇas mention Vaivasvata Manu as the first ruler after the destruction of Hastināpura by great floods. Ninety-four generation of rulers separated Manu and the Mahābhārata war. Prof. Pusalkar who made a critical study of literary data assigns c. 3100 B.C. for the floods and Manu. Rough calculation based on twenty years for each ruler, ninety-five generations of kings would take us to (3100-1900 B.C.) 1200 B.C. which could be the date of the Mahābhārata war. Further, Purāṇic texts mention that 36 generations of rulers intervened the accession of Candragupta Maurya and Yudhiṣṭhira, the epic hero. It is generally accepted that Candragupta Maurya came to throne in 322 B.C. Similar calculation shows that seven hundred and twenty years would have elapsed since Yudhiṣṭhira's reign and the epic personality can be placed near about 1042 B.C. Hence it is evident that the Mahābhārata war could have taken place between 1200 B.C. and 1042 B.C. Purāṇic description of the regnal periods of the Maurya, Śunga, Kaṇva and Sātavāhana kings is fairly accurate. Again, the Purāṇic list of kings do not mention any pre-Mahābhārata kings. (In contrast, the Sumerian list assigns fantastically long periods of reign to their pre-flood kings which is difficult to accept). To some, this date might not be acceptable. It may be argued that the invading Aryans destroyed the Harappan civilization some time near about 1500 B.C But the Harappan civilization, according to C-14 dates, seems to have come to an end by 1750 B.C. Again there is nothing against assigning an earlier date, viz., 3rd/4th millennium B.C. to the *Ṛgveda*. In that case the Vedic Aryans can be associated with pre- and post-Harappan cultures.

Again, the date of the Mahābhārata war has also been calculated on the basis of astronomical observations, which, at times, have produced tangible results. Calculations by some

based on the time of Bişma's death from data given in the *Mahābhārata* itself, have arrived at 1400 B.C. as the probable date for the Great War. This happens to be nearer the truth. However, a difference of two to three hundred years is possible in astronomical calculations ; the margin of error is also true of the recent innovation of radiocarbon datings. On the grounds of such negligible discrepencies neither astronomical nor archaeological dating deserves to be discarded as untruth.

Pandey observes that the contention of Sankalia that there were no large kingdoms during the epic period is not borne out by facts. The Bhīşmaparvan enumerates no less than 250 Janapadas ; similarly the Purānas also preserve the memory of such kingdoms, some of which were as old as the *Ŗgveda* itself. The kingdoms mentioned were economically and strategically viable. The rulers always bore high sounding titles, like *samrāţa* and *ekarāţa*. V.S. Agrawala, the doyen of Indological studies, is also convinced of the existence of such kingdoms in the first millennium B.C. To say that such kingdoms were non-existent would amount to dispute the total evidence of the Vedic, Buddhist and Jain literature. Dr. Pandey observes that, "in a country like India which abhorred fanaticism and monolithic appaoach and which did not persecute the Kautsas and the Cārvākas, who denounced the Vedas and god respectively, the historicity of the Mahābhārata war would not have gone uncontested if it were a myth". Further, if the Mahābhārata war was a family fued it is not understandable why this particular fued was selected and came to be glorified throughout the length and breadth of India and not any other family fued. It is also not explainable how the entire Kurukshetra region happens to be literally studed with no less than 360 sacred sites connected with the events and personalities mentioned in the Mahābhārata war. Dr. Pandey is at a loss to understand how Sankalia, who wrote in 1964 that the Painted Grey Ware Culture of north India was connected with the Aryans and some of the sites are definitely associated with the *Mahābhārata* could turn round and deny the historicity of the Great War. He would like to know, "what precisely has happened in the last decade which has made the Epics and the Purāņas look unreliable and the great war unhistorical" ? It is most likely that most of the ancient sites associated with the epic has not

been adequately excavated, hence the confusion.

Regarding the paucity of effective weapons, Dr. Pandey counters with the statement that even in the *Ṛgveda* weapons of iron (*ayasa*) are mentioned; even special machines, like *purācariśma* which was used in the demolition of forts, are mentioned. Likewise, many sophisticated machines and weapons are referred to in our ancient literature. Similar views have been expressed by Prof. B.P. Sinha.

V.V. Mirashi, Ajaya Mitra Shastri and Ram Gopal

Another protoganist challenging the 'myth' theory is Dr. V.V. Mirashi. The date of the critical edition of the *Mahābhārata*, viz., 4th-5th century A.D. advocated by Sankalia is not acceptable to Mirashi. He argues that since the Vākāṭaka king Sarvasena has used the Harivaṁśa, the Khilaparva (appendix) of *Mahābhārata* in his Prakrit kāvya *Harivijaya*, the original Harivaṁśa should at least date back to 2nd century A.D. The antiquity of this epic is also proved by the occurrence of the names of some noted epic heroes in the Atharvaveda and the Yajurveda. The genuineness of the War also cannot be questioned, but it is possible that the war was not fought on such a grand scale as described in the texts.

As for the usage of weapons, Mirashi counters the contention of Sankalia, by saying that "the *Ṛgveda* contained a description of how Vishpala's leg was cut off in a battle and the Aśvins gave him an iron one". *Ayasa* (iron) often referred to in the *Ṛgveda* pertained to a period not later than 11th century B.C.

Divergence of views regarding the Mahābhārata war is due to the absence of reliable history of the ancient period. This is also true of the historical period, where also there is no unanimity of opinion on innumerable issues.

Dr. Mirashi accepts that there has been interpolation in the Mahābhārata and observes that, "Originally it (Mahābhārata) was a small poem of 8,800 verses and was known by the name Jaya (victory), then it swelled to 24,000 verses and became known as Bhārata, and, finally, it reached the present stupendous size of one lakh verses, passing under the name Mahābhārata".

Similar views have been expressed by Dr. Ajaya Mitra Shastri and Prof. Ram Gopal.

Lallanji Gopal

Dr. Gopal advocates a seminar on the *Mahābhārata* and *Rāmāyaṇa*. To him also, the Mahābhārata war is not a myth. From the sum total of the available evidence, he concludes, that "some characters of the epic and a few details of its narrative find general credence from the later Vedic literature, including the Brāhmaṇas and Upaniṣads, early grammatical works of Pāṇini and Patañjali, the fragments of Indica written by Megasthenes, and Jain traditions which is generally accepted to have preserved most old material". He also says, that "unless we are sure that we have dug at the right spot we cannot over-emphasize the negative argument of the absence of archaeological matter".

The Vidur Seva Ashram, near Bijnor, in Uttar Pradesh, organized a three day seminar on this issue, between 19th and 21st October 1975. The seminar was attended almost exclusively by Vedic and Sanskrit scholars, and a few astronomers who were in no doubt about the historicity of the Mahābhārata. Before going into the detailed arguments of the several scholars taking part in the deliberations, it is worthwhile to give in brief the outcome of the discussions which took place in the Seminar. It centred mainly around the date of the Great War.

For the last several decades there have been four sets of suggested dates, *viz.*, (*i*) 5100 B.C. (*ii*) 3100 B.C. (*iii*) 1400 B.C. and (*iv*) 900 B.C. for the Mahābhārata. Of these the first has since been discarded. Presently, Vedic and Sanskrit scholars generally accept 3000 B.C. while historians and astronomers favour 1400 B.C. for the war. The latter has been upheld by eminent scholars like B.G. Tilak, R.C. Majumdar and Pandit Sitanath Tattvabhushana.

In the seminar, the Vedic and Sanskrit scholars relied on the *'nakṣtra digna'* mentioned by heroes like Bhīṣma, Kṛṣṇa and Karna in the epic, as also the references to these in the Upaniṣads and *Mahābhārata*, but dates of later dynasties, epigraphical evidence, clay tablets of later kings have not been taken into consideration.

As against this, historians and astronomers deemed it necessary to consider the dates of later dynasties, like the Nandas, the Mauryas, the Śākyas, and the Guptas to arrive at an acceptable date for the Mahābhārata war. They pointed out

that if the date propounded by the Vedic scholars is accepted then the date of Aśoka will have to be taken back to 1474 B.C., that of Candragupta to 1536 B.C., and Buddha to 1800 B.C. This is rather difficult to reconcile with several precisely dated kings and events from the Mauryan period onwards.

The president of the conference Swami Bon Maharaj relying on the *Mahābhāgavata* and the commentary on this *itihāsa* by Jiva Goswami of Sūrya Siddhānta fixes the date of the war on Paushya amāvasyā day in February 3136 B.C. The Mousala parva of the epic informs us that the war was fought 36 years before the death of Kṛṣṇa. That is to say the war was fought at the end of *Dvāpara yuga* and 36 years before the commencement of *Kali yuga.*

Raja

Prof. Raja, a participiant in the Vidur Ashrama seminar, is of the opinion that the war was fought on November 22, 3067 B.C.

The learned professor has calculated this date on the basis of the position of certain stars and the position of the Sun in the zodiac. He says that when Yudhiṣṭhira performed the *rājasūya yajña* on the New Moon day with *Jeyṣṭa* and *moola* nakṣtras the sun was at 240.2°. Just before the commencement of the war with *amāvasyā* and *nakṣtra* the sun's position was 224.75°. After three lunations the sun was at 312.06° in the zodiac. Sun's position on the *śukla aṣṭamī* in the month of *māgha* was 318.6°, and the moon was at a distance of 90° from the sun, *i.e.*, in the *Rohiṇi nakṣtra.* This was the day when Bhīṣma left the earthly abode for heaven. On the *Ratha saptami* day, when the sun turns north, the sun's position was 316.5°. Therefore at the commencement of the *Vasanta ṛtu*, the equinox was at 46.5°. Now, in 1975 *Vasanta ṛtu's* beginning or the equinox was at minus 23.4°. Hence the equinox has slipped back by 69.9°. Average of the slip, or technically the precision of the equinox, is 72.5 years per degree. Calculation of the interval between the Mahābhārata war and 1975 on this basis we arrive at 5068 years (69.9×7.2.5) or 3093 B.C. Another astronomical feature mentioned in the Udyoga parva is that on the *Jeyṣṭha* day. Jupitar and Saturn were in the constellation Rohiṇi ; while Sun, Moon and Rāhu

were in *Jeyṣṭha*, causing solar eclipse. Calculations on the basis of this observation would lead to the date, October 13, 3067 B.C. as the date of the war. *Śarad ṛtu* began on this day when the sun was at 224.75°. *Amāvasyā* preceded the commencement of the *Śarad ṛtu* and hence *Amāvasyā* began in the *atimāsa* (extra month). The succeeding new moon comes in the month of *mārgasira*. It is, therefore, on the *Śukla Ekādasī* day of this month, that the war was fought. *Śukla Ekādasī*, with *Kṛtikā nakṣtra* falls on Friday, the November 22, 3067 B.C.

K.C. Varma and S.B. Roy

Mr. Kailash Chandra Varma, another participant of Ashram seminar, is of this opinion that the war was fought in about 1397 B.C. He has pointed out the difficulties in accepting 3000 B.C. as the date for the war. If this is so, between 3138 B.C. and Candragupta Maurya, 328-27 B.C., 2800 years would have elapsed, during which 32 Bṛhadrathas and 12 Śaisunāgas would have ruled. The average works out to 67 regnal years for each king. This avelage is not found anywhere in the world since 3500 B.C. when the first king of the First Dynasty of Egypt began to rule.

The date 3135 B.C. has been arrived on the assumption that *Kali yuga* commenced in the year 3102 B.C. and also could not have begun prior to Kṛṣṇa's *nirvāṇa*. This also raises another difficulty. In this case not only the history of our country but also that of others need have to be recast, taking the date of Aśoka back to 1474 B.C., Candragupta Maurya to 1536 B.C. and the Buddha to 1800 B.C. Further, we would be confronted with the problem of not accepting the well-established Egyptian chronology worked out on the basis of contemporary inscriptions since the beginning of the Fifth Dynasty. This dynasty cannot be earlier than 2800 B.C. "This calculation is based on the astronomical cycle on the coincidence of the first day of the civil calendar with the rise of the Sothis, *i.e.*, the Sirius which used to take place 1460 years since the Egyptians consistently omitted to incorporate the 'leap year' in their reckoning".

Again, this date for the Mahābhārata war contradicts the chronology in Greek history. Herodotus avers that the Greeks obtained their alphabet from the Phoenicians sometime in the first quarter of the first millennium B.C. The Kandhar

inscription of Aśoka in Greek contains the Greek letters 'eta', 'xi', 'pti', and 'Omega'; these letters were incorporated in the Greek alphabet system in about 400 B.C. If we assume that the Mahābhārata war was fought in 3138 B.C., then it would mean that these Greek letters were incorporated in the Greek alphabets in circa 2900 B.C. In that case Aśoka's inscription found at Kandhar should belong to c. 1602 B.C. and the Gupta era would commence in 328 B.C. The last date is in direct contradiction with Fleets' date 319 A.D. for the beginning of the Gupta era. But this date, *viz.*, 319 A.D. for the Gupta era is confirmed by the Mandasor inscription of Bhānuvarman and Kumāragupta II. Sen Gupta, after examining astronomical data contained in twelve inscriptions, including the one mentioning Gupta Era 162 corroborates Fleet's date, in his book *Ancient Indian Chronology*.

Dating the Mahābhārata war in the fourth millennium B.C. also affects the chronology of the historical events in Sri Lanka which, since 841 B.C., is well-established for it has been based on their contact with ancient China whose chronology is indisputable. On the strength of a dated inscription (398 A.D.) of king Upatissa (360-410 A.D.) Paranavitana places the beginning of the Buddha Era of Sri Lanka in 544 B.C. Hence 3138 as the date for the Mahābhārata war is not acceptable.

According to Varma, the Mahābhārata war was fought in 1397 B.C. He argues that the Buddha, Prasenajit of Kosala, Caṇḍapradyota of Avantī, and Udayana of Kauśāmbī were contemporaries. They ruled 24 generations after the Great War. Now, to the number of regnal years per generation, Herodotus accepts 3 generations to a century. In recent years, G.S. Basu, calculating on astrological and *yuga gaṇanā* basis, advocates 33 years per generation in his *Purāṇapraveśa*. This also tallies with the epigraphic evidence of known dynasties. Calculations give a date for the Pāṇḍavas in the 14th century B.C. Again, it is said that 32 Bṛhadratha and 12 Śaiśunāgas ruled for over ten centuries. The Nanda Dynasty was over-thrown by Candragupta Maurya in the last quarter of the 4th century B.C. This method of calculation also fixes the date of the Great War in the 14th century B.C. S.B. Roy also accepts it.

B.V. Raman

B.V. Raman, the noted astrologer of Bangalore, is another scholar who has refuted Sankalia and Sircar. He fixes the date of the Mahābhārata war on the strength of astronomical calculations to 37 years before the beginning of *Kali yuga* which started in *c.* 3102 B.C. He asserts that, "there can be little doubt that there was such a war even as there was a Trojan war. The very site of the battle field and array of the main topographical features named in the epic are identifiable. Dr. H.D. Sankalia remarks that the historicity of the Mahābhārata was based on references to astronomical observation is not tenable, betrays his ignorance of correlation of historical events to astronomical positions widely used in ancient times." He also observes that archaeological and anthropological evidences were inconsistent with the philological evidence. Besides, the available objective evidence for the movement of Aryans into India is still inconclusive. Hence the antiquity of Indian history should not be confined to 10th, 11th century A.D.

In support of the lack of conseited research Shri Raman quotes Aurobindo: "European scholars, and most Indian scholars still follow the Europeans, have shed no light whatever on the Mahābhārata beyond the fact that it is the work of more than one hand. All else it had advanced, and fortunately advanced little, has been rash, arbitrary or prejudiced theories......always theories without any industrious consideration of the problem."

Regarding the date of the Mahābhārata war his contention is as follows :

At the beginning of the *Kali yuga* (*c.* 3102 B.C.) all the planets were in the mean conjunction coinciding with the passing away of Śrī Kṛṣṇa.

The Mousala Parva of the *Mahābhārata* mentions that Śrī Kṛṣṇa's death occurred 36 years after the Mahābhārata war, which would be sometime in 3066 B.C. At the time of battle Jupitar and Saturn were near the star *Viśākha* and Mars; Venus and Mercury were in association. This position of the planets fits in about November, 3142 B.C. Aagain, in the Karṇaparva planetary position on the 17th day of the battle is given. Likewise astronomical details during Yudhiṣṭhira's coronation, his performance of the *Aśvamedha* sacrifice are also given. These would certainly enable a dispassionate scholar to fix the year of

the Mahābhārata war". Mr. Raman concludes saying that "the Mahābhārata war was not only a historical reality but also marked an epoch in the long history of India and the beginning of a new age".

B. B. Lal, V.N. Mishra, R.C. Gaur and A.H. Dani

As the controversy rolled on, Prof. B.B. Lal came forward on behalf of those who held the view that the *Mahābhārata* is not a myth. He is an archaeologist and, therefore, his line of approach has been slightly different from those of the rest. He has tried to correlate the archaeological evidence with the traditional account. According to him, there are at least three grounds on which we can say that the Epic and Purāṇic tradition has been corroborated by the archaeological evidence :

(*i*) Most of the important sites connected with the main story of the Mahābhārata war have yielded from their lowest levels the material items of a culture designated by archaeologists as the 'Painted Grey Ware Culture' since it is characterized by a particular type of pottery which is grey in colour and which is painted. The economy of the people was pastoral-cum-agricultural as is clear from the bones of domesticated animals and plant-remains. The houses were of mud and mud-bricks. It was basically a rural culture. The people made their artefacts of copper and iron both, although weapons of war have not been found in any appreciable number, except for the arrowheads.

(*ii*) The Painted Grey Ware pots have also been found at Kauśāmbī, an ancient site on the R. Yamunā, about 50 km. from Allahabad, in U.P., in forms and paintings which show a kind of degeneration in the ware, a fact which may indicate that the Kauśāmbī Painted Grey Ware represents the last phase of the Culture.

(*iii*) There is clear evidence of a heavy flood in the Gaṅgā which destroyed the settlement of the Painted Grey Ware people at Hastināpur, the capital town of the Pāṇḍavas. After that the site was completely deserted. When reoccupied, after a century or two, Hastināpur witnessed the arrival of a new culture also—the Northern Black Polished Ware Culture (abbreviated as the 'NBP Culture').

These three archaeological facts corroborate the traditional account as follows :

Firstly, on the basis of the C-14 dates the NBP Culture is dated to 500-200 B.C. bracket. Since the P.G. Ware Culture precedes it, and there is a date going back to 1100-1000 B.C. range, the date of the P.G.W. Culture may be bracketed between 1100-500 B.C. (or later by two hundred years, since at sites like Atarañjīkherā and Śrāvastī it overlaps with the NBP Culture, making the total range of the PGW Culture as 1100-300 B.C.). It means, the PGW Culture was there at most of the Mahābhārata sites during 1000-900 B.C., the date when the Mahābhārata War took place according to different calculations made on the Purāṇic data, particularly, those by Pargiter and his own (see his note in this volume).

Secondly, according to *Matsya Purāṇa* (50, 57, 65, 66, 78-79) and *Vāyu Purāṇa* (99, 249b, 250, 256-58) when Hastināpur was destroyed by a flood in the Gaṅgā, King Parīkṣit, fifth in the line of the Pāṇḍava rulers, shifted his capital from Hastināpur to Kauśāmbī. The archaeological evidence of flood at Hastināpur, according to Prof. Lal, corroborates this Purāṇic evidence of the flood.

Thirdly, since the Kauśāmbī Painted Grey Ware can be related with the last stages of the Painted Grey Ware of Hastināpur, it is possible that the Purāṇic tradition of the capital being shifted from Hastināpur to Kauśāmbī is correct.

Prof. Lal, therefore, feels that there is some strong archaeological reasons to believe that if the Mahābhārata war took place before the birth of the Buddha, as it appears to be the case if all the literary traditions of ancient India are not fake, and if the calculations based on the dynastic history, as contained in the Purāṇas, bring us to 1000-900 B.C. as the bracket of the date of the Mahābhārata War are then, the Painted Grey Ware Culture is the only archaeological culture of the Indo-Gangetic divide which should be taken as belonging to the times of the Mahābhārata War. Several other scholars have followed him.

Amarendra Nath

As against this, Shri Amarendra Nath feels that the archaeological evidence as quoted by Prof. Lal holds good only if we accept his stand that the Mahābhārata War was fought in the tenth century B.C. Since, according to another view, particularly of K.C. Varma and S.B. Roy, the date of the War falls in

the 15th century B.C., it is possible that the archaeological culture belonging to this period is represented by the Late Harappa-Ochre Colour Pottery complex whose remains have been found on several sites in the Indo-Gangetic divide, including Kurukṣetra and Hastināpur. He feels that the methodology adopted by Prof. Lal—trying to find out the remains of a common culture-complex at most of the sites associated with the Mahābhārata story to determine the culture of the Mahābhārata period—is itself questionable. Why should we think that there has been a single archaeological culture all over the region in which the drama of the Mahābhārata was played ?

U.V. Singh, J.P. Joshi and R.P. Sharma

As against this Dr. U.V. Singh and others feel that the date of the Painted Grey Ware itself may go back to the fourth, if not the third, quarter of the 2nd millennium B.C. since at sites within the Kurukṣetra township, and Bhagawānpurā, a site about 40 km. from here, the Painted Grey Ware appear to have overlapped with the Late Harappa Culture. Although the date of the Late Harappa Culture is as yet not known, since no C-14 date is available, but on the basis of the latest dates of the Harappa Culture, which falls in the 18th century B.C. and the earliest date of the Painted Grey Ware which falls in the 11th century B.C., it can safely be said that the Late Harappa Culture in Harayana belonged to the second half of the second millennium B.C. If the evidence of this new archaeological discovery is taken into account then whatever date one chooses for the Māhabhārata War—15th century B.C. or 10th century B.C.—the archaeological culture belonging to the Mahābhārata War times may be the Painted Grey Ware.

S.P. Gupta and A. Ghosh

While reviewing the correlation between the Hastināpur P.G. Ware and the Kauśāmbī P.G. Ware, as proposed by Prof. Lal, Dr. S P. Gupta has expressed some concern. According to him the two wares seem to be different, if not generically then at least in their typological gamut and a great variety of painted designs, fabrics and other related aspects. He relies on the evidence furnished by Shri L.M. Wahal that the true P.G.W. assemblage has not been so far found beyond District Fatehpur.

Shri A. Ghosh has raised a few similar objections as also several other related with the ancient texts and genealogies.

M.C. Joshi, J.P. Joshi and Upendra Thakur

Sarvashri M.C. Joshi, J.P. Joshi and Dr. Upendra Thakur feel that the flood which destroyed the Painted Grey Ware settlement at Hastināpur was one of the usual floods in the Gaṅgā which often destroyed settlements on its banks. There is hardly any reason to associate it with the Purāṇic flood. Dr. S.P. Gupta, however, stands by Prof. Lal and says that in order to judge the magnitude of the flood one has to see the aftermath of the flood, and since it is proved beyond doubt that after the flood the site was completely deserted for a pretty long time, the flood should be taken as unprecedented.

The first two authors also feel that the P.G.W. Culture was a rural culture and, therefore, it cannot be related with the culture of the Mahābhārata times which appears to be an urban culture. If this argument is taken seriously, Dr. Gupta feels, then the Mahābhārata War should be placed either in the 3rd millennium B.C. or in the 3rd cent. B.C. since, in between these dates, archaeologically, India was without cities. But these authors, along with many others feel, that this was not the case, the Mahābhārata War has to be placed in between these two dates. Clearly enough, these authors contradict their own statements.

Shri M.C. Joshi has drawn our attention to the occurrence of the O.C.P. Culture also at Hastināpur, in its lowest levels. He also points out that according to traditional accounts the town of Hastināpur was founded by the Paurava King Hastina. It will then mean that archaeologically, there were two cultures of the Pauravas; one, the O.C.P. (when the town was founded), and, the other, the P.G.W. (when the War took place). It does not appeal to reason. Dr. S.P. Gupta feels that although it is not improbable, yet it should not be imagined that the founder of the town should be identified with the earliest cultural remains of the site. Below the cities of Śāhjahānābād and Tuglaqābād, there are the remains of pre-Mediaeval period.

In reviewing the controversy, we offer our comments :

In this controversy there are two diametrically opposed groups—one vehemently upholding that the Mahābhārata war

was a total 'myth' and the other trying to establish with equal vehemence its reality and historicity.

But the common ground is the one where both agree that the epic itself has undergone a metamorphosis, growing from a lilliput—an 8,800 verses—to an elephantine size, comprising a lakh of verses.

We are not concerned whether the Mahābhārata war was a total skirmish or a family fued, the theme of which developed later into an epic but with its reality or otherwise. The answer is clear. The very acceptance by the staunch opponents that the epic was woven around a tribal fued or family fight is sufficient to accept the core of the epic as a reality. If it is real, its historicity cannot be contended. The contention that the war is not found mentioned in later Vedic literature, or in the literary works prior to 4th century B.C., is a point to be considered. As regards the former, one scholar is of the opinion that the later Vedic literature is of a socio-religious work and hence there is no place in it for dealing wars. Yet the names of personalities taking part in the war is mentioned. Be it as it may, the contention of the proteganist of the 'myth' theory would usher in the time element rather than dispute the authenticity of the epic war; this brings us to the date of the war.

Scholars are not unanimous about the date of occurrence of the war. A wide range of dates varying from the last quarter of the 4th millennium B.C. to 600 B.C. has been proposed and advocated with vociferous arguments. The camp, again divides into two (*i*) one group working out a plausible date from the astronomical observations found in the epic itself and the other arriving at a date calculated on the basis of generations of kings mentioned in the Purāṇas who ruled Bhāratavarṣa prior to the accession of Candragupta Maurya. Lack of chronological sense of the epic writers, for that matter even of rulers prior to the accession of Aśoka, the first Indian ruler to have left behind evidence in writing, has given much scope for speculation. Yet we cannot escape from assigning a probable or nearly acceptable date for the war. To us, the astronomical dates appear to be more on the higher side, and many have pointed out the shortcomings of this method. The other method has its drawback since the number of regnal years assigned to each king is arbitrary. Therefore, to arrive at an acceptable date, it is

imperative to integrate all methods of dating, including archaeological dating-sequence and other methods—about which more appears elsewhere in the volume. To us, a date near about 1000±200 B.C. appears to be plausible.

How can archaeology help us in this matter ? Obviously, the answer is 'through excavation of potential sites'. Prof. Lal has shown us that a particular ceramic industry viz., the Painted Grey Ware, is invariably found at sites usually associated with the Mahābhārata story. Circumstantial evidence leads to this favourable deduction. In a country where tradition dies hard and the people are conservative in their religious outlook, there would appear hardly any chance for change. Therefore, it is reasonable to expect the names of important places mentioned in the epic surviving in some manner or other even to present day ; Hastināpura, Pānīpat, Bhāgpat, Kurukṣetra are only a few. Do all these have really any connection with the epic towns ? It is hard to answer. Only intensive horizontal excavation would throw some light. But one thing seems to be certain, the emergence of the later Vedic people, the Painted Grey Ware and the ushering in of iron seem to be inter-related, and a proper study of these is bound to lead to some tangible results.

—*K.S. Ramachandran*
—*S.P. Gupta*

THE MAHĀBHĀRATA AND ARCHAEOLOGY

Our task here is now to present the Mahābhārata controversy in the frame-work of archaeology in some detail. In India, however, not many serious attempts have been made by archaeologists to throw light on the historicity of the Mahābhārata story and the material culture of the period of the original *Mahābhārata*. Nevertheless, the one attempt that has been made with real passion has been made by an eminent field archaeologist, Prof. B.B. Lal. Fortunately, it caught the attention of Prof. A. H. Dani, a distinguished Pakistani archaeologist, who added some new dimensions to his thesis. Shri B.K. Thapar, a very close associate of Prof. Lal in most of his major excavations, has recently made a reappraisal of practically all the attempts made so far as to the the Aryan problem wherein he has also demonstrated

that Prof. Lal's theory is by far the most sound.[1]

But, before it is stated what Prof. Lal has done in this respect, a word may be added as to what archaeology can and cannot do in the present context, particularly for the lay readers.

Limitations and possibilities of archaeology

Archaeology deals primarily with the material remains of the cultures of the bygone days. Experience has shown that these cultures can be grouped broadly into two : one, in which we get the objects made of bone, stone and clay along with coins and epigraphs, and, the second, in which the latter two categories of antiquities are absolutely non-existent. The former is called Historical, while the latter, Prehistoric Archaeologists dealing with the historical cultures use the expertise of numismatists, epigraphists and art-historians, besides several others, while the archaeologists dealing with the prehistoric cultures use the expertise of scientists, like palaeontologists, geologists and anthropologists.

In other words, while the scholars of the former group have much reliable data in terms of precisely dated documents, the latter have to reconstruct the past-as-it-was largely on the basis of the circumstantial evidence, often based on not-so-precisely-dated remains. However, in both the situations all the material remains do not survive, those which survive the ravages of time and happen to lie within the area excavated by archaeologists, are indeed very few. Obviously, the limitations of such an evidence are more than the possibilities it offers, and, to that extent, archaeological remains are never expected to give the full picture of the bygone days. By its very nature, therefore, archaeological knowledge is a fragmentary knowledge, although it is ever-expanding. But then it has an edge over certain other categories of social and life sciences dealing with ancient cultures. The evidence is unimpeachable since it is based on tangible objects and is verifiable again and again. When obtained by excavators in closely observed conditions, there is hardly any chance of ambiguity and interpolation which are common features of literary evidence pertaining to ancient history. When items requiring

[1] Thapar, B.K., "The Aryans : A Reappraisal of the Problems", *ICWTC*, pp. 147-164.

a different kind of expertise are further studied by specialists, as indicated earlier, the authenticity and trust-worthiness of the archaeological evidence is enhanced manifold. This is precisely the reason why archaeology is now becoming increasingly important with every serious scholar of past cultures.

Thus, once it becomes clear that archaeology works under great limitations in spite of the fact that its possibilities of finding out the truth is immense, we hope, the readers will be able to appreciate the role of archaeology in the present context—it presents facts but not all the facts.

Do facts speak for themselves ?

But do all facts speak for themselves when we meet them in our everyday life? Probably, they do not. Otherwise why sould we have courts of law in which judges put questions to the facts of a case through the lawyers presenting the case. Obviously, when incidents occur, they leave behind a set of facts, often dead and mute, and in order to elicit truth we have to frame proper questions and put them to the facts, then alone they are expected to speak the truth. Conversely, if we frame wrong or irrelevant questions we will get only wrong answers or no answers at all. Clearly, what is much more important than the discovery of the archaeological facts, is the framing of proper questions on the part of the investigators. In other words, left to themselves historical facts are dumb, they start speaking only in the hands of the investigators who are capable of putting proper questions to them. This particular faculty of the archaeologists dealing with the epics is, therefore, of supreme importance, since howsoever good a digger of an ancient site may be, implicitely it will never mean that he is equally capable of extracting the truth from the excavated material, although he is placed in a much more advantageous position to investigate the truth than anyone else.

With this much of preface, considered essential for the lay readers as well as the non-archaeologists who are seriously interested in knowing the truth through the means of archaeology, we now proceed to another question : What is the nature of the *Mahābhārata* and how much archaeology, in the light of its limitations and possibilities detailed above, is really capable of establishing the truth contained therein ?

The basic nature of the Mahabharata and the problem of its stratification

The *Mahābhārata* is an epic. No epic is ever a diary of events or a simple narration of incidents which have occurred in a given time and space. It may be a fiction, a pure fiction, or else it may be based on a tradition handed down through the ages, or else on a mythology held by the people as sacred, at one time or the other, or else on an event which actually occurred and was known to the author either personally or through someone he had no reasons to disbelieve. But in every case, let it be clearly stated, an epic is a distinct creation of the author, much more different from the actual facts of history, or even tradition and mythology, than sometimes imagined. Further, it is common knowledge, that hardly there has been an epic writer who could completely cut himself off his times and describe the past exactly-as-it-was; 'present' inperceptibly creeps into the 'past', which comes to the notice of the critics and not the devotees. As is well-known, the *Mahābhārata* has several recessions and Sanskrit scholars have been busy over the past several decades in bringing out what we call the 'Critical Edition of the *Mahābhārata*', by picking out the most commonly occurring events and narrations, and leaving out those which individual authors seem to have added from time to time in their own versions. Obviously, it cannot be over-emphasised that an epic based on historical events is always a peculiar mixture of myth and reality, or facts and fictions; only rarely it is a complete fiction or complete reality. So the proper question to be posed in the present case may be : *Mahābhārata* : How Much Reality and How Much Myth, and not just MYTH or REALITY.

Now, once we start with the presumption that there is (or may be) some historical base of the *Mahābhārata*, we are faced with the problem : how to separate that base from the myth and legends ? The first step should be directed towards the task of determining the internal stratigraphy of the text since then alone archaeologists can be rightfully asked to discover the remains of material cultures in the same sequence for establishing the historicity of the *Mahābhārata*. This the archaeologists will have to leave mainly to the historians, Sanskritists, philologists and linguists. These scholars, however, so far at least, have not been able to achieve any appreciable degree of success beyond

showing us that there is ample internal evidence to prove that the present-day *Mahābhārata* has grown in stages, over a considerable period of time. It grew from 8,800 verses when it was called *Jaya*, through 24,000 verses, when it was called *Bhārata*, to 1,00,000 verses, we have now in the form of the present *Mahābhārata*. In other words, they have not been able to distinguish the *Jaya* verses from the *Bhārata* verses, and the *Bhārata* verses from the remaining *Mahābhārata* verses, let alone determine their chronology.

In any case, one thing is certain: some of the portions do belong to the early centuries of the Christian era or a couple of centuries earlier. In this connection, probably, the portions of the Sabhāparva mentioning the Indo-Greeks, the Syrians, the Romans and other foreign nationals, from whom, it is alleged, the Pāṇḍavas extracted tributes for their *digvijaya* or uuiversal conquest, may be easily quoted since the dates of their contacts with India are fully known. But except for such references, and also perhaps the descriptions given of the architectural features of palaces, forts and temples, which are clearly of the buildings of the early part of the first millennium A.D., if not later, nothing definite can be said about the dates of the other portions. It appears quite clearly that at least some significant portions of even the critical edition of the *Mahābhārata* reflect the cultural and political condition of the country of the early centuries of the Christian era. But, then what are the portions which reflect the cultural life of the people of 1000 B.C. or 400 B.C. or 200 B.C., etc., the dates generally assigned to the additions and interpolations made in the text ? So far at least, there is hardly any clear-cut idea about it on the part of the researchers. Still, when archaeologists are asked in several indirect ways to unearth and show the remains of the cultural items mentioned in the entire or most of the *Mahābhārata* into the levels of the third or second or early first millennium B.C., they politely say 'it is a task imposible to perform'. This is, probably, putting wrong questions to archaeologists to elicit right answers.

Now the next question that may be straight a way put is: well, if, in their own words, archaeologists cannot discover cultural items of different periods, to which the present *Mahābhārata* text belongs, in the levels of a single unified period of 1,000 B.C. or

earlier, or later, then what they are expected to do in the present context ?

The question of methodology

In this regard, there is a clear-cut starting point : let archaeologists determine their own sequence of cultures hidden below the earth independent of the details given in the *Mahābhārata*, and let the Sanskritists and historians determine their own sequence of events and cultures contained within the text of the *Mahābhārata* independent of the archaeological sequence of cultures. Once it is done, let both of them sit together round a common table and attempt correlating the two sequences to arrive at the truth. But since researches of this kind make a long process, let them meet annually and compare notes for their future guidance; the present atmosphere of two sets of scholars somewhat accusing each other of mis-representing the facts or of professional incompetency should end once and for all. Fortunately, there are several forums for good academic discussions in our country, one of them being the Indian Archaeological Society which holds its meetings annually and publishes its bulletin *PURĀTATTVA* regularly; No. 8 (1976) of this Bulletin contains several articles on Tradition and Archaeology.

It may be mentioned that in the field of prehistoric archaeology (which includes the 'protohistory' of certain writers), into which the present controversy largely falls, inter-disciplinary approach alone is considered valid. When a prehistorian goes to make a thorough study of the cultures of the Stone Age or Bronze Age or Early Iron Age, he asks his geologist friend to work-out independently the chronological sequence of the environmental changes in which man lived and the geological formations in which the artefacts of the prehistoric men got embedded. He, however, himself takes up the burden of studying the artefacts and working out independently their sequence in terms of technological development and cultural stages, mainly on the basis of stratigraphical evidence. Then they meet together to correlate the two types of results and arrive at sound conclusions regarding the changing pattern of cultures in time and space. In this endeavour they also take help from anthropologists, botanists, zoologists and other experts in the cognate subjects.

One may wonder as to what do we want to emphasize through this unseemingly long discussion on pure methodology? To them, our answer is simple : without evolving a proper methodology no attempt can ever be expected to yield the desired result—in the present case, the myth and reality of the Mahābhārata. The archaeological methodology is inter-disciplinary, i.e., it combines the expertise of not only the social sciences but also of the life sciences, as also physics, inorganic chemistry and petrology, as must have become clear to the readers by all that we have said so far. And it is this methodology that archaeologists recommend for tackling the problem of the *Mahābhārata*. Prof. Sankalia used it when he took up a similar study in the context of the *Rāmāyaṇa*. But that has been, more or less, a single man's attempt, although by far the most brilliant attempt, to correlate the results of studies made by several scholars belonging to a number of disciplines, whether we agree with his conclusions or not. We recommend joint efforts, constant dialogue over a number of years among scholars and experts of different disciplines, followed by quick publications to elicit useful information from the non-participant scholars, experts and interested readers. Simultaneously, it will also give proper caution through comments and criticism ; after all, caution is much more important in scientific studies than the laudable words.

SEQUENCE OF ARCHAEOLOGICAL CULTURES IN THE INDO-GANGETIC DIVIDE

We may now consider the sequence of cultures which archaeology has been able to discover in the supposed locale of the *Mahābhārata* story, the region between the ancient Saraswatī-Dṛṣadavatī basin in Haryana and Rajasthan and the Gaṅgā basin in Uttar Pradesh, known as the hub of the ancient Āryāvarta. The sequence of cultures before the Aśokan times is as follows :

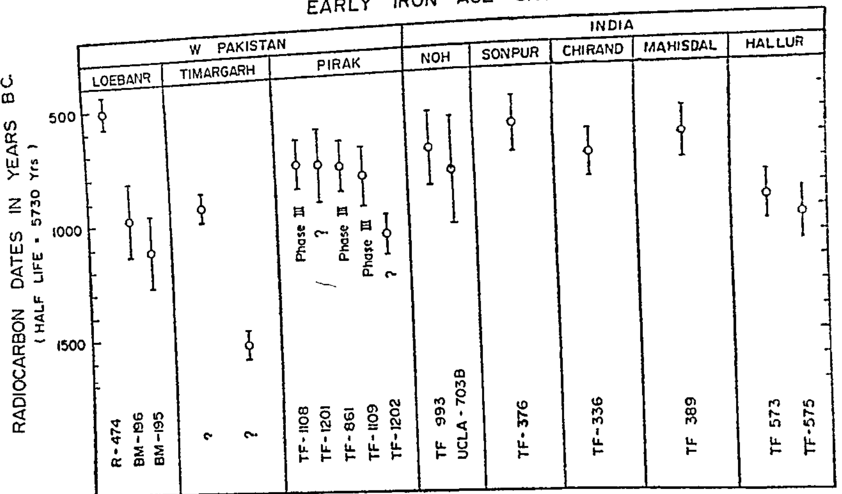
Date (with ± 100 years on either side)	*Culture*	*Stage*
600 B.C.— 200 B.C.	Northern Black Polished Ware Culture	IRON
1000 B.C.— 400 B.C.	Painted Grey Ware Culture	
1800 B.C.—1000 B.C.	Ochre Coloured Pottery Culture	
1900 B.C.—1000 B.C.	Late Harappa Culture: Chalcolithic Culture	
2500 B.C.—1700 B.C.	Harappa Culture	COPPER-BRONZE
3000 B.C —2000 B.C.	Proto-Harappa Culture (sometimes called 'Sothi-Kot Diji complex of the Pre-Harappan origin')	
STONE AGE CULTURE		

CORRELATING ARCHAEOLOGICAL FACTS WITH TRADITIONAL ACCOUNTS

As said earlier, we have no sequence of events or textual stratification worked out so far within the deposit accumulated over centuries which has come down to us as the *Mahābhārata* of today with the result that proper correlation, stratum by stratum, between the archaeological cultures and the Mahābhārata cultures is not becoming possible to any appreciable degree. It may be recalled that the problem of stratification of Kauṭilya's Arthaśāstra has also been there for a long time but when attempts were made some happy results have come to light. We may, in the present case, however, state a few points where correlations between archaeology and tradition is possible, hopefully leaving the rest for the future attempts.

The Mahabharata belongs to the Iron Age

To our mind, the first point to be settled by the Sanskritists and historians is whether the original *Mahābhārata*, the *Jaya*, belongs to the Stone Age or Copper-Bronze Age or Iron Age. Our feeling is that it belongs to the Iron Age, because of two reasons: firstly, most of the weapons of war used in the Great



A comparative plot of the C^{14} dates of the earliest Iron Age sites. It may be noted that both in the northwest and the south of the sub continent iron appears around *c* 1000 BC.

War of Kurukṣetra appear to have been made of metals, including iron, and, secondly, whatever may have been the meaning of the term *ayasa* in the *Ṛgveda*, none has ever doubted the meaning assigned to the term *kṛṣṇa ayasa*, *i.e.*, 'black metal' or iron, occurring in the *Atharvaveda* which belonged to the pre-Mahābhārata period. Archaeological discoveries made so far in the whole of South Asia shows that the technology of iron entered into India only around 1000 B.C., of course, ±100 to 200 years, but not more than that at the present showing (see chart on page 31).

The chart on the last page makes it absolutely clear that, archaeologically speaking, the *Jaya*, or the original *Mahābhārata*, has to be placed anywhere between 1200 B.C. and 800 B.C. or later, but possibly not earlier unless the overlap phase of the P.G.W. and Late Harappa Cultures in Kurukṣetra region is precisely dated.

Painted Grey Ware : The earliest Iron Age Culture of Indo-Gangetic Divide

The other point, which appears to have been more or less fixed as the corollary of the first is that the earliest iron age archaeological culture in the Indo-Gangetic divide is represented by the Painted Grey Ware Culture, although it is just possible that, to begin with, i.e., in the earliest phase, the culture may not have contained iron implements, but this surmise, which is based on more or less exclusively on the evidence furnished by the excavations conducted at Hastināpur and Bhagawānpurā, has still to be supported by the results of further excavations at the same sites, and more excavations at other sites.

Identification of Mahabharata towns

The third fixed point appears to be the results of the task of identifying the towns and villages connected with the Mahābhārata story with some of the still existing sites, since all the human settlements of the Mahābhārata period cannot be taken as completely destroyed and obliterated either by natural agencies or human factors. In many cases, as we all know, the ancient names, either in their original forms or in slightly modified forms (but easily recognizable as such) still continue to exist for certain mounds, such as Kurukṣetra in Haryana, Hastināpu-

n U.P. and Indraprastha in Delhi. And it is just possible, that n India, the land where there has often been a marked contiuity of many traditions, these are the same sites as mentioned n the *Mahābhārata*. But let us argue along with some others that there is also the possibility that this identification is not correct since identical geographical names occur not only within the present boundaries of India but also outside India. There is not one Ayodhyā but several Ayodhyās, not one Kamboja but several Kambojas, not one Śrāvastī but several Śrāvatīs. But in this context two things must be borne in mind : firstly, that most of the sites, in countries other than India, known after the Indian sites, are usually associated with Brāhmanical or Buddhist religions, and that they were established by the Indian emigrants for their everyday needs of moral and spiritual life. There is a recorded history for most of them. They may, therefore, be completely ruled out of consideration. Secondly, the original Mahābhārata story is a unified story whose events, historical or otherwise, took place within a unified geographical area, and, therefore, the physical proximity of many of the sites in question has to be one of the most significant factors in determining their identification.

Let it be once again reiterated that the major Mahābhārata sites, such as Kurukṣetra and Hastināpur, have all along been considered as pious and meritorious as the major Rāmāyaṇa sites, such as Ayodhyā, Prayāga and Citrakūta, have been. Therefore, there is every possibility that the proposed identification of some of the Mahābhārata sites with the still existing mounds in the Indo-Gangetic plains and known by the same names is correct, as proposed by Prof. Lal.

Painted Grey Ware found in the lowest levels at most of the Mahabharata sites

If it is so, then, archaeologically speaking, our task becomes easier than sometimes imagined. Let us, as the next step in our study, know the sequence of cultures existing at these sites and mark out the levels of the earliest iron age culture, independently, at each of these sites, since ; following the methodology detailed above, the original Mahābhārata does not seem to be older than the oldest iron age culture. Prof. B.B. Lal's excavations and explorations have shown that it has been the

Painted Grey Ware Culture. This was struck in the lowest levels of all these sites ; besides, of course, one exception, of Hastināpur, of the copper-bronze age culture, the O.C.P. culture, being explained later. (Fig. 3)

If that is so, archaeologically speaking, no pre-Painted Grey Ware Culture can be taken to represent the culture of the times of the original *Mahābhārata*, irrespective of the fact whether the Mahābhārata War was great or small, or petty family affair. But then why P.G. Ware Culture alone be taken to represent the original Mahābhārata period ?

Northern Black Polished Ware also found at Mahabharata sites

The original *Mahābhārata*, let us hypothesize, belonged to the N.B.P. Ware Culture, the most wide-spread iron age culture of the post-Painted Grey Ware period. The remains of this culture have also been found at most of the places connected with the Mahābhārata story. The position, however, remains the same as with the P.G. Ware. Purely from the archaeological point of view, it is not impossible, as Shri A. Ghosh argues elsewhere in this Volume but Sanskritists and historians do object since the implication of this theory has been vehemently contested by them, that the original *Mahābhārata* cannot be older than the sixth century B.C. It is too late a date for them to accept since the Buddhist literature repeatedly makes mention of the Mahābhārata stories and the genealogies of kings given in the Purāṇas do not at all fit into this late chronology as has been shown by Prof. Lal. (See notes of Drs. Thakur, Mirashi, Shastri, Roy, Pandey, Gopal, Majumdar, and others elsewhere in the Volume.)

Harappa Culture and the Mahabharata

No serious student of history and archaeology has ever correlated the two, for two specific reasons : firstly, within the locale of the Mahābhārata story, Kurukṣetra, Kuru-Pañcāla and Mathurā, there is no major Harappan site, and secondly, none of the sites directly related with the Mahābhārata story has yielded the remains of the Harappa culture. In fact, the entire cultural gamut of the Harappa Culture is starkly different from the one reflected in the *Mahābhārata*.

Mahabharata and the remains of the P.G. Ware levels

Thus, by the simple process of elimination of the claims of different cultures and periods we reach to the inescapable conclusion that if the original Mahābhārata is a historical reality, even in the form of a family fued, as Prof. D.C. Sircar maintains, then the material culture belonging to the period of that war or fued may reasonably be taken to be that represented by a post-Harappan and pre-N.B.P. Ware Culture but still belonging to the iron age, and that happens to be the Painted Grey Ware Culture alone, in the Indo-Gangetic divide at least. We must, however, hasten to add that it does not at all mean that archaeology has proved the authenticity and historicity of either the story of the *Mahābhārata* or the entire cultural *form* of the material equipment that emerges from the study of the present *Mahābhārata*. Far from it. After all, neither the palaces of the Kauravas and Pāṇḍavas nor the temples and other monumental structures mentioned in the *Mahābhārata* have been unearthed in the Painted Grey Ware levels of the Mahābhārata associated sites. Archaeological evidence shows that the structures, only huts and mud or mud-brick houses, only rarely baked brick buildings, were extremely modest in the days of the P.G. Ware, at least on the present showing. The implications of our analysis in this regard, as said earlier also, are that the descriptions of the structures in the *Mahābhārata* are likely to have been added after the 3rd century B.C. when the construction of elaborate structures of palaces and temples, and residential houses of the common man is likely to have begun in northern India, from which the authors seem to have taken their clue.

THE PURĀṆAS, MAHĀBHĀRATA & ARCHAEOLOGY

That the problem of correlating the literary and archaeological data in the present context admits some more aspects also has been demonstrated by Prof. Lal. According to the Purāṇas, particularly the *Matsya* and *Vāyu*, when the capital city of the Pāṇḍavas, *i.e.* Hastināpur, is completely destroyed by a heavy flood in the Gangā, Nicakṣu, the fifth king after Parīkṣit, who ascended the throne of Hastināpur just after the Pāṇḍavas won the battle of Kurukṣetra, will shift his capital to Kauśāmbī,

located some 50 km. from the modern city of Allahabad. Could archaeology establish the truth of this statement? Probably yes, probably no. Yes, because there is some significant circumstantial evidence ; no, because there is no direct evidence.

Hastinapur got flooded and then deserted

There is a clear-cut archaeological evidence of a massive flood in the Gaṅgā destroying most of the settlement of the Painted Grey Ware people, so much so that the place was not occupied by human beings for quite sometime, but for how long a period, cannot be stated precisely, may be for a century or two, as the C-14 dates of the P.G. Ware levels and the N.B.P. Ware levels suggest. Could it then not be the Purāṇic Flood? If yes, then what was the magnitude of the flood attested to at Hastināpur? (Plates II and III)

JUDGING THE MAGNITUDE OF THE HASTINĀPUR FLOOD

Sarvashri M. C. Joshi, J. P. Joshi and U. Thakur have questioned the validity of the evidence of the flood at Hastināpur by saying that it was just a 'scar' causing only a limited damage to the site. Shri M.C. Joshi argues that sites located immediately on the bank of rivers, particularly major rivers, keep on experiencing the pressure of such floods and, therefore, there is hardly any basis to identify the Hastināpur flood with the flood mentioned in the Purāṇas. We, however, strike a note of disagreement with these scholars on this issue. Our observations are as follows:

That the P.G. Ware settlement was found badly destroyed by a flood in the Gaṅgā at a time when culture had not shown signs of any phenomenal decay is amply clear from the archaeological remains That the flood was unprecedented, although it might have spared some houses, is proved much more by the aftermath of this tragedy : the complete desertion of the site for a considerable time ; the site was occupied only after a definite break in the occupation, as the published report of the Hastināpur excavations shows. Had it been an ordinary flood the people would not have completely deserted the place. (We have the evidence of six repeated floods and yet continuation of the settlement, coming from Mohenjodaro). And who were

these new occupants? Not all of them were the same Painted Grey Ware using people. Probably, there were a new set of people also. They were the users of the Northern Black Polished Ware in place of Painted Grey Ware. Clearly, the time lag between the flood and the reoccupation of the site was considerable, about a century or two. The obvious conclusion is that the flood that brought about this calamity was of no small magnitude. Contrary to the views of Shri M.C. Joshi, it was not one of those yearly or once-in-ten years flood which causes limited and repairable destructions and is often met with at practically every site located on the bank of a major river.

Why the capital was shifted to Kausambi?

Since the destruction of Hastināpur appears to have been unprecedented, it may be easily presumed that the faith of the people got completely shaken. And it is just possible that the uprooted people themselves told their king to move to some safer place, far away from this more or less inhabitable, in-hospitable and ill-fated site. But then where to move in? Who would allow them to settle down in his territory, and that too along with their king? Prof. Lal points out to us in personal communications that since most of the eastern region was the stronghold of the Pañcāla kings, both of the northern and the southern regions, there was absolutely no possibility for them to move to Ahichchhatrā or Śrāvastī or Kāmpila or any other site upto the present day Farukhabad-Kanpur region. The only politically *terra incognita* (virgin land) lying immediately beyond it which could offer in the eighth century B.C. the kind of fertile land and hospitable climate they were enjoying at Hastināpur was of Kauśāmbī. During this period Kauśāmbī's political importance, it may be pointed out, was practically nil; it emerged as a state capable of influencing neighbours and standing against them only in the seventh century B.C. when India witnessed the rise of the Sixteen Mahājanapadas.

That the Purāṇas preserved the oral traditions of the *Mahābhārata* and later history, is amply proved from several genealogical tables they offer, and we need hardly go into these details here, scholars like Pargiter and Raychaudhuri have already dealt with this aspect of the problem in their several

publications. Therefore, the vital question for the archaeologists has been to show, if they can, the archaeological basis of this tradition. And to our mind, the evidence of the flood attested to at Hastināpur is not an entirely un-convincing evidence – it is preserved at the mound in the form of a very thick deposit of mud and slush and, sand and clay, showing obvious cross-bedding and dove-tailing of layers (Pl. III) ; and also in the ancient bed of the Gaṅgā in the form of a huge conglomerate of washed-out habitational material, as deep borings made by Prof. Lal have clearly shown (Pl. III). It was not just a 'flood-scar', as some scholars believe.

JUDGING THE NATURE AND SIGNIFICANCE OF THE KAUŚĀMBĪ P.G. WARE

Besides the 'flood', the most important evidence cited by Prof. Lal is the occurrence of a kind of Painted Grey Ware at Kauśāmbī. At Kauśāmbī, from the levels immediately preceding the N.B.P. Ware complex, there is a thick deposite of a grey ware characterised by a very rudimentary type of painting, one simple band hurriedly executed on the outer-side of the rim of a pot. The artist used a watery thin black pigment which trickled down the profile in a very awkward manner, exhibiting an utter lack of control over the brush and/or utter disregard for the quality of production. (Pl.VI). Prof. Lal, therefore, once called it a *degenerate* kind of Painted Grey Ware and christened it as 'Kauśāmbī Painted Grey Ware'. The two remarks put together would imply, according to him, a very late date for this ware, almost at the very end of the P.G. Ware period. If this is so, it fits into his thesis very well. It may clearly show the continuance of a pottery tradition of the Mahābhārata period long after the Mahābhārata war at a place where political power of the Pāṇḍava rulers continued to exist. But then in this connection a question may be raised.

Why should we take the Kauśāmbī Painted Grey Ware as generically related with the Painted Grey Ware of Hastināpur when the two wares appear to be somewhat dissimilar not only in painted designs (the trickling down of the paint and the marks left by them is not commonly found at Hastināpur even in the pottery of its latest levels) but also in typology, for

example, in the rejection of certain forms from active use at Kauśāmbī, such as the Straight Sided Bowl, a most typical P.G. Ware type of Hastināpur ?

That the two wares may have been generically related is indicated, according to Prof. Lal, by two factors, but according to us, this is so only circumstantially : (*a*) the continuance of the tradition of executing paintings on the grey ware pots, whatever may have been the designs (not a very sound argument, in any case), and (*b*) the continuance of the majority of the P.G. Ware types, such as the large open-dish (*thālī*) and rounded bowls (*kaṭorā*), big and small, both (Pl. VI). The absence of the straight sided bowl at Kauśāmbī, according to Prof. Lal, may not create any great concern since even at Hastināpur, as the published report clearly shows, this type was popular only in the lower levels ; the upper levels have yielded only a few examples of this type. It means that there was a gradual decline in the popularity of this type even at Hastinā-pur. That its popularity might have completely died out by the time the P.G. Ware reached Kauśāmbī is, therefore, not altogether impossible if we agree with the hypothesis of Prof. Lal. It is, in a sense, implied in the very process of change the P.G. Ware was undergoing while moving from the east to the west and from early levels to the late levels. Kauśāmbī is considered by Prof. Lal as the eastern most metropolitan centre in the Gaṅgā basin where the P.G. Ware was in use ; it has not been found either at Rājaghat in Vārāṇasī or Pāṭalī-putra in Patna or even Vaiśālī (our close observation clearly shows that the Vaiśālī grey sherds are not the P.G. Ware sherds). However, explorations conducted in the Kanpur-Fateh-pur region by Shri L.M. Wahal of the Archaeological Survey of India clearly show that the classical or *deluxe* P.G. Ware has not been found beyond a site known as Galāthā on the con-fluence of the R. Pāṇḍu and R. Gangā in District Fatehpur and, therefore, the claim of Kauśāmbī as the eastern most site of the P.G. Ware is only tentative. Obviously, only further explorations in the region between Fatehpur and Allahabad can decide the issue one way or the other.

It is, however, possible that within the process of change the process of gradual transformation of pottery types into certain modified forms and the process of selection and rejection of the

existing types and painted designs for future use was constantly going on. It means that while, on the one hand, the quality of the P.G. Ware was declining in terms of decorative designs, etc., (the directional changes were from the preference for a painted ware to a comparatively plain ware) on the other hand, it gradually started conforming to the forms of another *deluxe* ware (which started replacing the P.G. Ware throughout the latter's area of popularity), the Northern Black Polished Ware. It is significant to note that this process of transformation continued with the grey ware even after the period of the N.B.P. Ware, since we keep on getting the plain grey ware bowls and dishes in the levels of the last quarter of the first millennium B.C. But it is not the same thing as proposed by Prof. Lal.

Kausambi P.G. Ware and Puranic tradition

The correlation between the actual shifting of the capital from Hastināpur to Kauśāmbī, as mentioned in the Purāṇic traditions, which may not have taken more than a couple of years on the part of Nicakṣu, and the changes claimed to have occurred in an earthen ware, which is a common man's industry, may be taken with a pinch of salt. One would rather expect practically all the P.G. Ware types occurring in the latest level of Hastināpur period II (P.G.W. period) in the earliest level of Kauśāmbī period II (P.G.W. period) if the suggested correlation has to establish itself firmly. Since this does not seem to be the actual situation, the vital question that follows is: who introduced the so-called Kauśāmbī Painted Grey Ware tradition at Kauśāmbī ? At the present state of our knowledge, there cannot be any categorical answer. But the possibility that they belonged to a P.G.W. Cognate group cannot be completely ruled out. Prof. Lal, however, does not agree with this conclusion ; according to him the Kauśāmbī P.G. Ware belongs to the Hastināpur P.G. Ware group, the difference, which exists between the examples of the two groups has to be seen in the light of changes already occurring at Hastināpur. But we contend that it is not very clear from his report of the excavations published in *Ancient India* No. 10-11. A re-examination of the excavated pottery is, therefore, absolutely essential. He agrees with it. We also suggest that more detailed work be done on

the so-called Kauśāmbī P.G. Ware.

There is another line of argument also which Prof. K.K. Sinha wants me to present here. The Purāṇic reference seems to have been indirectly supported by Kauśāmbī's evidence of a slightly different kind. Extensive excavations by Prof. G.R. Sharma clearly show that the emergence of Kausāmbī as a potential region for future development (as a centre of great economic and political power) was realized much earlier than the sixth cent. B.C., or the times of the Buddha and King Udayana, since there is a thick habitational deposit of pre-N.B.P. Ware antiquities at the site. It is possible that although its potentiality was realized very early, it was exploited to a great extent only by some newcomers (from Hastināpur ?) and the incident was so much alive in the oral traditions that the Purāṇas incorporated it and symbolized it in the episode in which king Nicakṣu and his uprooted people from Hastināpur have been shown settling down at Kauśāmbī.

The historians who would ask the archaeologists to give 'much more solid proof' for the correlation between the traditional accounts and the material remains will be, we are afraid, somewhat disappointed. It is not because the archaeologists are incapable of finding out such a proof but because such a proof is never expected to have existed—they cannot discover the coffin of king Nicakṣu since cremation was the mode of the disposal of the dead, even for the kings, in those days, and they cannot unearth a contemporary written record mentioning all these historical and geophysical events since writing itself was unknown in India during the post-Harappan and pre-Mauryan period. They cannot also be expected to produce a stone statue of this king because during the period mentioned above the technique of making sculpture in stone of any significant proportions did not exist, at least on the present showing, and if there was any wooden sculpture, it must have perished long before as was probably the case with other wooden sculptures and structures in the Indo-Gangetic valley. For similar reasons, we also do not expect any wooden palace of the king or any other kind of monumental structure of the contemporary period. What nature could not preserve, the archaeologists should not be expected to produce.

URBAN VIS-A-VIS RURAL CHARACTER OF THE CULTURE OF THE MAHĀBHĀRATA PERIOD

In this context it has sometimes been said, particularly by Shri M.C. Joshi, that the culture represented by the P.G. Ware and its associated finds represent the picture of a basically rural society and not urban, while the settlements and society of the Mahābhārata period was largely urban. Obviously, the two do not go together. In this connection the archaeological evidence is very clear : the earlier part of the statement is correct but the latter part may not be correct. Why ? The answer is simple. Archaeologically speaking, after the Harappans the First Indian Cities were established not before the Mauryan period, since in terms of monumental structures, use of baked bricks, planned settlements, and above all, the writing, are conspicuous by their absence in the pre-Mauryan and post-Harappan levels. Then, should we take the date of the original Mahābhārata, which is also the actual date of the War, as Mauryan or post-Mauryan ? No one would do that for several well-known reasons (see the note of Dr. Phadake in this monograph). Clearly enough, the *Mahābhārata* period was represented by the same cultural *form* as the Vedic, which means 'rural'. Further, as a corollary, the Mahābhārata kings and heroes were no better than the pre-Mahābhārata (Vedic) kings and heroes, either in their social status or in excellence in warfare. That is why Prof. Lal and Shri B.K. Thapar have always considered the Mahābhārata problem within the framework of the larger problem, the Aryan. Therefore, let us not take the remarks of Shri J.P. Joshi seriously that 'we can hardly say anything positive regarding the existence of the culture of the Mahābhārata period'. Whatever may have been the period or the periods or the *Mahābhārata* there were some human beings and, therefore, there was some culture, rural or urban is a different matter, that is always determined in the light of our own definition of 'rural' and 'urban', which is not as well settled as is often imagined.

In any case, look it from any angle, the so-called urbanity of the *Mahābhārata* appears to be a later interpolation. It is also clear from archaeology that many of the details of the

warfare and the weapons of war could not have been as old as 1000 B.C. or 1500 B.C.

Urbanity vs. Civilization

But lest we are misunderstood, we would like to make it clear that from our point of view urbanity and civilization are not synonyms. The Vedic Culture was the culture of a highly civilized people well-versed in metal technology and warfare as also in philosophy and literature but it, in itself, will not mean that they were well-versed in establishing cities and living in a non-rural context. Urbanism is a particular socio-economic reality based on division of labour and occupational specialization, an evolved administrative system, monumental structures, wide-spread trade connections, etc., which certainly did not characterize the P.G. Ware sites.

Directional changes in the P.G. Ware

In fact what intrigues us much more than this is another aspect of the story. How is it that the P.G. Ware (if we leave Kauśāmbī out of the present consideration because opinions may differ on its inclusion in the family of the Painted Grey Ware) appears on the scene of Indian potteries in the most flowering stage and also disappears in the same stage (as Śrāvastī, Ataranjīkherā, and other places where it overlaps with the N.B.P. Ware and then soon ends its history, its shapes, fabric and painted designs remain the same, that of the *deluxe* type) ? The stages of evolution and devolution in the ware have as yet not been fully worked out, although Prof. Lal informs us that it is not true: most of the pots in the latest levels of the P.G. Ware at Hastināpur are degenerate ones, marked only by a single black band around the rim, a feature comparable with the Kauśāmbī examples. Obviously, according to him, changes in pottery were taking place in time and space both, only a fresh look is needed to make a detailed study of this phenomenon. Similarly, as claimed by Prof. Lal, changes in 'preferences' of certain pot types were also taking place, at least at Hastināpur. To us, however, it is not clearly borne out from his published report. A more detailed analysis of the ware is absolutely essential.

CHRONOLOGY OF P.G. WARE : SOME PROBLEMS

A word about the Chronology of the Painted Grey Ware in the light of C-14 dates is essential. Two things are said about it : firstly, that except Atranjikherā no other site has yielded a date earlier than 800 B.C , and secondly, that most of the dates fall between 800 B.C. and 400 B.C. (see chart below). Then, it is also said that as far as Hastināpur is concerned its dates are still later, none is earlier than 550 B.C.±100 years. In this connection our discussions with Prof. Lal led us to deduce the following. To begin with, the C-14 dates obtained on the samples from Hastināpur are not cent-per-cent reliable. Why ? Prof. Lal explains it as follows :

If one goes through the remarks about the samples as given by Dr. D.P. Agrawal and Km. Sheila Kusumgar who carried out the C-14 tests on them, it becomes clear that excepting for one, all were likely to have been contaminated since all of them contained rootlets of grass, etc., which were, of course, physically picked up or chemically destroyed. Nevertheless, if they had already affected the samples in antiquity these precautions could not have helped the matter at all. This is proved by another kind of evidence also. The dates obtained on samples from Hastināpur, belonging even to the post-P.G. Ware levels, are younger by about 200 years when compared with the dates of roughly contemporary (observation based on pottery analysis) levels elsewhere in the region, e.g., at Ahichchhatrā, Śrāvastī Kauśāmbī, Ropar and Ālamgirpur (see Fig. 2). In this connection, for us it appears necessary to inform the readers as to why this tragedy, if it was really so, occurred with the samples from Hastināpur ? In 1951-52 when Hastināpur was being excavated, C-14 technique had not developed. Thus, when after 15 years of the excavations it was realised that let us collect a few samples from the site and put them to the C-14 test, the trenches were taken in an area much nearer the old exposed trenches than ordinarily recommended. It was, possibly, a case of bad sampling.

It has now been widely recognised that all is not well with C-14 dates falling between 300 B.C. and 3000 B.C. They appear to be younger by a certain number of years by a fixed rate according to the scientists working in a museum laboratory of U.S.A., called MASCA. As we go back in time, the quantum

C^{14} DATES OF P.G. WARE SITES

Sites	C^{14} dates, based on half-life=5730 yrs. in years BC	
Noh (Rajasthan)	TF-1144,	490± 90
	UCLA-703A,	605±260
	TF-993,	725±150
	UCLA-703B,	820±225
Hastināpur (U.P.)	TF-83,	335±115
	TF-112,	375±100
	TF-90,	390±115
	TF-85,	505±130
	TF-91,	570±125
Atranjikhera (U.P)	TF-291,	535±100
	TF-191,	1025±110

The C^{14} dates of the P.G. Ware sites (courtesy, D P. Agrawal and Sheila Kusumgar).

increases, upto 500 years or more, to be added to the C-14 dates. According to this correction, 1025±100 B.C. date of the P.G. Ware level of Ataranjtkherā will become 1155±100 B.C., and 820±100 B.C. of Noh will become 900±100 B.C. If we agree with this correction (MASCA) the early phase of P.G. Ware may fall between 1200 and 900 B.C. But let it be clearly understood that experiments in correcting the errors of C-14 are still going on at several places by the scientists of different disciplines and all of them have not accepted the validity of MASCA Corrections based on tree-ring dating method, called 'dendrochronology'. Still no one has ever said that additions have not to be made to the C-14 dates. In this connection a note by D.P. Agrawal in *Purātattva* No. 7 (1974) may be seen. On the whole, therefore, 1000 B.C. to 800 B.C. may still be taken only as a probable date for the early phase of the P.G. Ware, although it is younger by two to three hundred years of the date suggested by Prof Lal and higher by the same number of years from the date suggested by Dr. D.P. Agrawal and Km. Sheila Kusumgar in the context of Hastināpur. In this context Shri J.P.

Joshi's excavations at Bhagawānpurā near Kurukṣetra and Dr. U.V. Singh's explorations at Kurukṣetra appear to be extremely significant : they show, as Shri Joshi very kindly informs us that in its lowest levels P.G. Ware overlaps with the Late Harappan deposit which could not be later than 1300-1100 B.C. bracket because it is of the pre-Iran Age.

As far as the date of the Painted Grey Ware suggested here is concerned a few more factors may also be taken into account. Firstly, as said earlier, there is every likelihood that this ware emerged almost along with the emergence of iron technology in India. In fact, Dr. G.G. Majumdar, who has conducted a number of scientific investigations on this ware in his laboratory at the Deccan College, Poona, informs us that in the very process of producing the Painted Grey Ware, the knowledge of iron technology is pre-supposed because it is the iron content in the clay which alone produced the type of colour the ware assumed while undergoing baking in the kiln. And iron technology came to India, as said earlier also, only around 1000 B.C.

Secondly, the Painted Grey Ware overlaps with the succeeding N.B.P. Ware at several sites, notably, Śrāvastī and Ataranjīkherā. The question is at what point of time the two wares overlapped ? At the present state of our knowledge, this seems to have happened round about 500 B.C —450 B.C. since at several places, the thickness of the P.G. Ware deposit below this level is about two to three metres. It is not impossible, on a very rough calculation of course, that it had taken 400 to 500 years to get this regular deposit, layer after layer, without any major disturbance. It also brings us to 1000 B.C. date, but, admittedly on a somewhat subjective calculation.

ARCHAEOLOGY AND THE PAURAVAS

In this context one more objection has been raised by Shri M.C. Joshi. Traditions ascribe the establishment of Hastināpur to King Hastin, also a Paurava, like Duryodhana, the main opponent of the Pāṇḍvas. Obviously, the culture associated with the Pāṇḍavas cannot be different from the culture which Hastin enjoyed. However, the cultural sequence of Hastināpur does not show it : the earliest occupation belonged to what the archaeologists call Ochre Coloured Pottery Culture, while the culture

following it is called Painted Grey Ware, ascribed to the Pāṇḍavas. If Hastin founded the town he should be taken, on the present showing, a king of the O.C. Pottery times and not the P.G. Ware times. How could two members of the same family belong to two different cultures widely separated from each other, asks Shri Joshi. On the face of it, Shri Joshi's objection is absolutely valid but then there is a snag. This observation pre-supposes a historical process which is not *generally* correct. In history, there are innumerable instances to show that the so-called founders of the important cities were only rarely the first settlers of the sites—take the case of Jaipur or Jodhpur or Śahjahānapur or Tuglaqābād or any other city of this category and dig below the occupational levels, you will usually find the remains of several other cultures preceding the ones to which their founders, who used their names to christian the sites, belonged. The nature of deposit of the O.C Pottery Culture at Hastināpur clearly shows that the first settlement at the site was of a miserable kind, may be there were only the hutments. It was also, as the evidence shows, destroyed by floods or by severe dust-storms, if we accept the theory of Dr. B.B. Lal, formerly Chief Chemist, Archaeological Survey of India. Then there occurred a break in the habitation. The Painted Grey Ware people probably occupied this place having only one consideration in mind: it was a place on the bank of a major river which was higher, because of the pre-existing debris of the earlier settlement, than the surrounding area. They may not at all have known anything about their predecessors Obviously, King Hastin could very well take the credit of establishing an entirely new township and name it after his own name during the P.G. Ware period in spite of the fact that below his feet laid buried a thick deposit of yellow clay mixed with tiny pieces (as the evidence is) of Ochre Coloured Pottery.

THE CLAIM OF THE LATE HARAPPA-OCP COMPLEX

Shri Amarendra Nath is of the opinion that the while considering the claim of the Painted Grey Ware Culture as the culture of the Mahābhārata period we should not forget that it is based on the preference that Prof. Lal has given to the views of Sanskritists like Pargiter in regard to the date of the Mahābhārata

War, i.e., 10th century B.C., over the views of astronomers like K.C. Varma and S B. Roy which place this date in the 15th Century B.C. He accepts the latter view and then says that the P.G. Ware's claim as the culture of the original Mahābhārata period be discarded since P.G. Ware's antiquity cannot be pushed back to 15th century B.C. He offers an alternative : the Late Harappa-OCP Complex. This complex belongs to the period in question and its remains have been found in plenty in the Indo-Gangetic divide, the actual locale of the Mahābhārata story. Prof. Lal, however, raises an objection : since the O.C.P. has not been found at most of the Mahābhārata sites, except Hastināpur, it cannot make any claim whatsoever. The same applies to Late Harappa culture since it has also not been found at most of the Mahābhārata associated sites, except Kurukṣetra. Amarendra Nath, however, questions the validity of the approach of Prof. Lal by saying that the equation of one people one archaeological culture is not a proper equation—regional differences in the material culture of a single people (ethnically and historically speaking) is the reality. As far as the Mahābhārata period is concerned, there were certainly several groups of people inhabiting the Indo-Gangetic divide, the text itself shows that. Archaeological discoveries in recent years show that in Harayana, Late Harappa Culture, and in western U.P. and eastern Punjab the O.C.P. culture predominated the scene during the second millennium B.C. Therefore, their claim as the cultures of the Mahābhārata period is more justified.

It may, however, be pointed out that this discussion is futile since the basic question is not whether this archaeological culture belongs to the Mahābhārata period or that archaeological culture; the basic question is : what date should we assign to the Mahābhārata War ? He is right if it is agreed upon that 15th century B C. is the date of the War but he will be wrong if it is held that the date of the War is the 10th century B.C. He forgets the fact that Prof. Lal has first tried to establish the date of the War by several types of calculations and then he went to select an archaeological culture of the Indo-Gangetic divide which belongs to that date, he did not do the other way round. Obviously, if Shri Amarendra Nath accepts 15th century B.C. as the date of the War, he may be right, but then Prof. Lal does not accept it, and he has given his own reasons for that. If we agree with Shri

Amarendra Nath, then we may also have the choice of agreeing with those who take *c.* 3000 B.C. as the date of the War and in that case only the Harappa Culture can have the proud privilege of becoming the culture of the Mahābhārata period. Prof. Lal's methodology cannot be challenged on the plea that 'one ware one people' equation is not correct because in the absence of anthropological and linguistic data what criterion we may evolve to identify a homogeneous group of people ? For pre-literate cultures, pottery has been accepted as the common denominator, howsoever apologetically it might have been done. As far as the Copper Hoard tools and weapons are concernd, let it be made clear, that firstly, these tools have neither been found at Kurukṣetra nor at Hastināpur and, secondly, no one has ever demonstrated that typologically the implements of the Hoards and those of the Mahābhārata War are identical.

SUMMARY AND CONCLUSIONS

While going through the press-reports, it occurred to us that archaeological evidence as well as the C-14 dates have often been used and abused not only by the historians, astronomers and Sanskritists but also by some archaeologists. The result is that an interested lay-reader often finds himself at his wits end. It was also realized that much of this misunderstanding is due to three factors : (*i*) for archaeologists pottery is the ABC of their science but the evidence of pottery does not appear to be as conclusive at the present state of our knowledge as it has been made out by Prof. B.B. Lal, particularly in the context of Kauśāmbī Painted Grey Ware, (*ii*) the evidence of flood deposits at the end of a habitational deposits of the Painted Grey Ware people at Hastināpur and its correlation with the Purāṇic data has also been interpreted differently by different authors, and (*iii*) because of certain difficulties in the calebration of the C-14 dates and also the exact location of the carbon samples in relation to the stratigraphy of some of the P.G. Ware sites, even the evidence of C-14 dates has not been properly appreciated. There are some specific points on which even Dr. D.P. Agrawal and Prof. B.B. Lal differ.

These difficulties cannot be fully resolved at the present state of our knowledge. As said earlier, cart should not be put before

the horse, archaeology on its own can neither decide the date of the Mahābhārata War nor prove the authenticity of several other incidents occurring in the *Mahābhārata.* These things will have to be decided by non-archaeological methods first and then we may try to find some support from archaeology, and not vice versa. Prof. Lal has been quite conscious of it and, therefore, he laboured very hard in establishing the date of the War first on the basis of the Purāṇic data and then tried to see what archaeology has to say on this subject. Similarly, he delved into the literature first to find out the reference of the flood at Hastināpura before passing judgement over the magnitude and the implication of the flood-deposits at Hastināpura. But I am afraid, he will have to work harder along with Prof. G.R. Sharma over the nature of the Kauśāmbī Painted Grey Ware and its proposed relationship with the Painted Grey Ware of Hastināpura. As far as the C-14 dates in respect of the Painted Grey Ware Culture are concerned, it is better to wait and watch for a few more dates from sites near Kurukṣetra, the site of the Mahābhārata War, because of one very significant fact which is emerging from the current excavations at Kurukṣetra and Bhagawanpura the Painted Grey Ware has been found overlapping with the Late Harappan Ware. It appears, purely on archaeological grounds (the C-14 dates are not available) that the latter Ware ended sometimes in the second half of the second millennium B.C. If it is so, the beginning of the Painted Grey Ware may also go back to the same period. To interpolate the C-14 dates of the Painted Grey Ware levels of Ataranjikherā or Sonkh or Noh (we need not enter into the academic controversy on the C-14 dates as obtained on the samples from Hastināpura since there are some strong reasons for arguments one way or the other with both Prof. Lal and Dr. Agrawal) into the chronology of the Kurukṣetra War is not absolutely foolproof—no ware shall ever give one and the same date at all the sites of its occurrence since Wares travel with men and men do take some time to travel from one place to another. On the present showing it appears that the epi-centre of this Ware was located in the Sarasvatī Valley of the Bikaner region from where it travelled towards the east, crossing Kurukṣetra, Hastināpura, Mathurā and Ahichchhatrā and reaching the Nepal Tarai at Tilaurākoṭ. If this is true, then we may expect the date of the

Painted Grey Ware at Kurukṣetra slightly earlier than any of the dates obtained so far, since all the dated sites are located far away towards the east from the place of the Mahābhārata War; how much earlier than the Noh-date, we do not know at the moment. We will, however, not be surprised if the P.G. Ware in the Sarasvatī basin, at sites like Bhagwānpurā, is dated to the 14th or 13th century B.C. in a pre-iron context. It means, the P.G. Ware people adopted the iron technology during the middle stage of their techhological development, any time between the 12th and 10th century B.C., allowing a couple of centuries for the early stage. Thus, if iron was used in the Mahābhārata War, as appears to be the case since iron as 'kṛṣna ayasa' definitely appeared in the pre-epic Brāhmaṇa literature, then the war is likely to have been fought within the time breaket of ±100 years 1200—1000 B.C. Archaeologically, we may not be able to say more than this at present.

—*S.P. Gupta*

MAHĀBHĀRATA AND ARCHAEOLOGY

B.B. Lal

I have been asked by the co-ordinators of this monograph to present in brief my views on whether the Mahābhārata was a myth or reality, particularly from the archaeological point of view. My answer to the question is that while there is no direct and unimpeachable evidence to establish the historicity of the Mahābhārata, there is some archaeological evidence, of a circumstantial kind, which suggests that in all likelihood there was a basis for the story which, as time passed, got inflated out of all proportions to the original. As regards the date of the episode, the question is no less difficult to answer. While dates varying from 3102 B.C. to 9th century B.C. have been suggested by different scholars, there seems to be a greater possibility of the latter date being nearer the mark. My grounds for arriving at these *provisional* conclusions are as follows.

The *Mahābhārata* text, as available to us now, refers not only to the Persians, Greeks, Romans and Parthians, but also to the Hūṇas. The present text, therefore, is unlikely to be earlier than the 4th century A.D. And if Kṛṣṇa was a historical figure, he is unlikely to have been later than the Buddha who lived in the 6th century B.C., for the history after the Buddha is so well-known that there is hardly any scope to accommodate Kṛṣṇa and the Mahābhārata in it. There is, therefore, a clear time-gap of *at least* a thousand years between the event and the available text.

It is also well-known that at one stage the book (*Mahābhārata*) was called *Jaya*, comprising only 8,800 verses. Then it came to be known as *Bhārata*, with 24,000 verses. In the now available form, it has swelled to 100,000 verses and is called the *Mahābhārata*. Which are the first-noted 8,800 verses no body has been able to sort out so far. And for all one can

say, the original text may have been still shorter !

From the foregoing it is amply clear that it would be unwise to treat the present *Mahābhārata* text, in its entirety, as a piece of historical document and to look for the palatial buildings and arsenals mentioned in it. The poet (poets) had his (their) full flight of imagination, and that is what one would normally expect in an epic like this.

In such a bewildering situation one may look to archaeology for succour. And the simple and straight forward method of the archaeologist would be to explore and excavate the sites associated with the story and find out what they have to tell us.[1]

Amongst the principal sites associated with the Mahābhārata story mention may be made of : Hastināpura (Meerut Dist., U.P.), which was the capital of the Kauravas ; Barnāwā (ancient Vārṇāvata, Meerut Dist., U.P.), where the Kauravas attempted to burn alive the Pāṅdavas in a lac-house ; Bairāṭa (ancient Virāṭanagara, Jaipur Dist., Rajasthan), where the Pāṇḍavas lived in exile ; Pānīpat (ancient Pāṇiprasṭha, Haryana), Bāghpat (ancient Vṛkaprastha, Meerut Dist., U.P.), Indrapat (Purānā Qilā, Delhi), etc.,—the five strategic villages on the Yamunā system, asked for by the Pāṇḍavas in case a war was to be averted ; Kurukṣetra (Haryana), where the battle was fought ; Mathurā (U.P.), wherefrom Kṛṣṇa hailed ; and so on (Fig. 1).

Explorations and excavations have revealed an identical material culture in the *lowest* levels of all these sites, the salient features of which are as follows.

The economy was based essentially on agriculture, cattle-breeding and, to some extent, hunting. Amongst the domesticated animals, besides the cattle, buffalo, sheep and pig, particular mention may be made of the horse whose presence in the Indus Civilization is debated but whose association with the Aryans is almost a must. The houses were made of mud or wattle-and-daub, the use of mud-bricks being rare. There is also some indication regarding the use of kiln-burnt bricks. While copper was used for making antimony rods, borers, nail-

1. Lal, B.B., "Excavation at Hastināpura and other Explorations", *Ancient India*, Nos. 10-11, pp. 147-151. Also, "Archaeology and the two Indian Epics", *ABORI*, Vol. LIV, 1973, pts. I-IV, pp. 1-8.

parers, arrow-heads and the like, it was the use of iron which distinguished this culture from the previous ones, namely the Indus Civilization, Copper Hoard Culture, etc. Sickles and probable ploughshares of this metal gave the necessary booster to agriculture, while axes, daggers, spear-heads and arrow-heads augmented the means of warfare. Amongst the other noteworthy objects associated with this culture are : glass bangles, being the earliest known so far in India; and oblong dice bearing 1, 2, 3 and 4 marks on them and plano-convex gamesmen, both indicating that the game of *chaupara* was played by these people.

The utensils were essentially of earthenware, but the tradition of the typical Indian dinner set—namely *thālī*, *kaṭorā* and *loṭā* (Pl. I) was set by these people. This pottery is fine-grained and has a grey colour because of its having been fired under reducing conditions in the kiln. The painted motifs, executed in black pigment, show a variety of linear and curvilinear designs (Pl. V). This black-painted grey pottery is so distinctive that it has acquired a proper name, viz., the Painted Grey Ware, and the concerned culture has begun to be called after it.

The fact that it is the same material culture that occurs in the *lowest* levels of all the Mahābhārata sites, binds them together.[1] In addition, however, Hastināpura has yielded some evidence of still greater significance (Fig. 3). When about 2.5 metres of occupational deposits had accumulated at the site, a great flood occurred in the Gaṅgā, on whose banks the site stands. It washed away a considerable portion of the settlement, there being ample evidence of the erosion (Pl. II) and of the humdrum deposition of the fallen material (Pl. III) on the riverside edge of the mound. But more noteworthy than this is the fact that a part of the washed-away material was found, by

[1]It may, however, be mentioned here that at Hastināpura and Ahichchhatrā there are traces of an earlier occupation, namely that of the Ochre Colour Pottery people. But this need not upset us, for at other sites it is the Painted Grey Ware Culture with which the occupation begins. Secondly, and this is more important, the Ochre Colour Pottery sites, such as Bahādarābād, Nasirapur, Jhinjhanā, Rajpur Parsu, Bisauli, Lāl Qilā, Saipai, etc., to name just a few, do not find any mention in our ancient literature, be it Vedic or classical. The Ochre Colour Pottery Culture, therefore, does not seem to have anything to do with the Aryans, much less with the *Mahābhārata*.

means of borings, in the river-bed itself at a depth of nearly 15 metres below the water-level (Pl. IV). The destruction of the Painted Grey Ware settlement at Hastināpura by means of a flood in the Gaṅgā is thus established beyond any shadow of doubt.

And here let us see what the literature has to say :

Gaṅgayāpahrite tasmin nagare Nāgasāhvaye ।
Tyaktvā Nicakṣur nagaram Kauśāmbyam sa nivatsyati ॥

"When the city of Nāgasāhvaya (Hastināpura) is carried away by the Gaṅgā, Nicakṣu will abandon it and will dwell in Kauśāmbī".

As regards the second part of the foregoing quotation, let it be said that the excavations at Kauśāmbī (Allahabad Dist., U.P.) have yielded bowls and dishes of grey ware, some of which also bear painted designs in black pigment (Pl. VI). While *no doubt the fabric of the Kauśāmbī ware is somewhat coarser* than that of the Hastināpura ware and so are the designs less crisp, it is evident that the former (viz., the Kauśāmbī painted grey ware) represents a continuum of the latter (viz., the Hastināpura Painted Grey Ware). And this is just the sort of evidence one may expect from a settlement which is later than but in continuation of another.

From the archaeological evidence briefly discussed above, the following two facts emerge : one, that all the alleged Mahābhārata sites are linked up one with the other with the same kind of material culture, which shows their affinity and contemporaneity ; and the other, that the evidence of flood from Hastināpura and that of the continuation of the P.G.W. tradition in a diluted form at Kauśāmbī lends *support to the* Purāṇic statement of Hastināpura being destroyed by a flood in Gangā and consequently the capital being shifted to Kausāmbī. Thus, while there is no doubt no direct inscriptional or like evidence to establish the historicity of the Mahābhārata, there *does exist* some evidence to suggest that it may not altogether be a concoction.

To turn to the date of the episode. As already stated at the beginning, there is no agreement amongst scholars about it. For example, basing their arguments on the Aihoḷe inscription of Pulkeśin II, dated Śaka 556 (expired)=A.D. 634-35, wherein it is stated that 3735 years had elapsed since the Mahābhārata

war, some scholars place the war in 3102 B.C. One, however, wonders as to how a statement like this, made after such a tremendous time-gap, can form the basis of sound history. Amongst the later dates suggested by scholars are : *circa* 1424 B.C. (K.P. Jayaswal), *circa* 1400 B.C. (A.S. Altekar), 1152 B.C. (S.N. Pradhan), 950 B.C. (F.E. Pargiter) and 9th century B.C. (H.C. Raychaudhury). While it is difficult to go through the merits of all these dates in a brief note like the present one, it may be mentioned that the latest date, i.e., 9th century B.C., proposed by Raychaudhury, may not altogether be improbable. Though Raychaudhury had based his arguments on the evidence of Vedic and allied literature and had not taken into account the Purāṇic genealogy, it would appear that even the latter, as also the archaeological evidence, support the date adduced by him. The position, in brief, is as follows.

As is well-known, Abhimanyu died on the battle-field and his son, Parīkṣit, came to the throne Yudhiṣṭhira after Parīkṣit. According to the genealogy given in the Purāṇas, fifth from him was Nicakṣu in whose reign a flood in the Gaṅgā destroyed the settlement at Hastināpura and the capital was shifted to Kauśāmbī (*cf.* above). The Purāṇas then go on with the names of the kings at Kauśāmbī, amongst whom comes Udayana as 25th from Parīkṣit (both inclusive). There is evidence to suggest that Udayana was a contemporary of the Buddha, and thus we see here the light of history. Though there are some divergent views regarding the date of the Buddha, most of the scholars are agreed that he died in 483 or 487 B.C. Accordingly, it may be assumed that Udayana was ruling around 500 B.C.

To assess the total duration of the reigns of the 24 kings that preceded Udayana back to the Mahābhārata times is again a very tricky problem, and one guess may be as good or bad as any other. While some scholars have suggested as many as 37 or 33 years for an average reign, the more soberly estimates are 19 years (A.L. Basham) and 18 years (Pargiter). In fact, Pargiter has said : "I have examined 14 series of from 20 to 30 kings in various eastern and western countries ; the longest average just exceeded 24 years in one case, the shortest was about 12 and the average of all was 19 ; but the average was higher in western countries and lower in eastern countries.



PLATE I

A typical dinner set of the Painted Grey Ware people consisting of thali, katora and lota

The Painted Grey Ware settlement at Hastinapur came to end as a result of flood in the Ganga. The figure points to the erosional scar left by the river

PLATE II

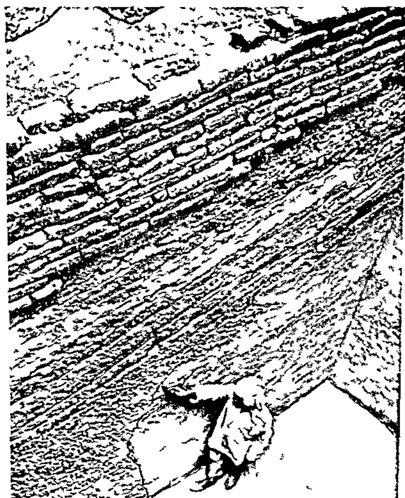




PLATE III

Hastinapur : close view of deposits near erosion-lines; A, natural soil, a part of which had also been disturbed and cut; B, dislodged material re-deposited, and C, bands of sand and clay formed during the interval between periods II and III

A part of the material which had been washed by the Ganga from the Hastinapur mound was found in some of the borings made in the river bed at a depth of nearly 15 meters

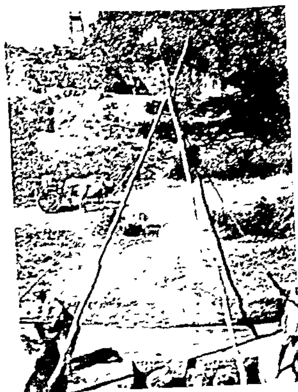


PLATE IV

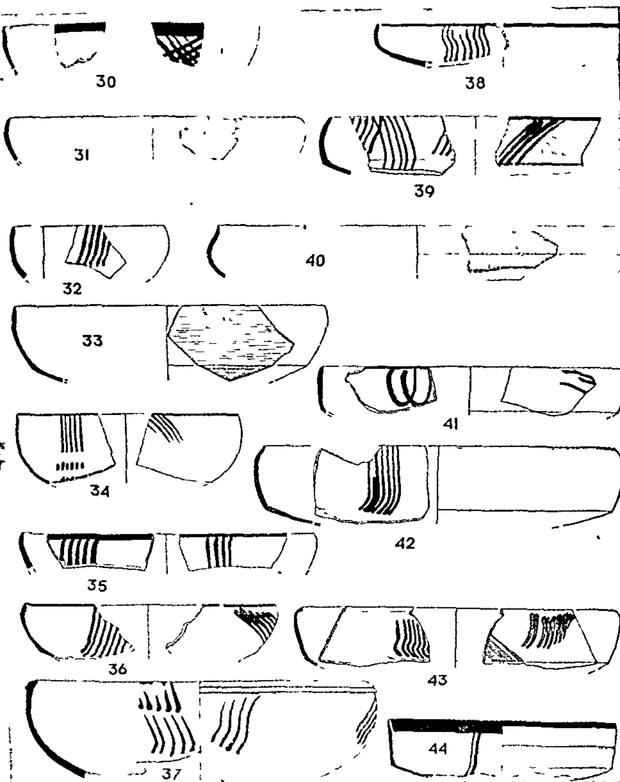


PLATE V

Some typical pots and pans of the Painted Grey Ware found at Hastinapur

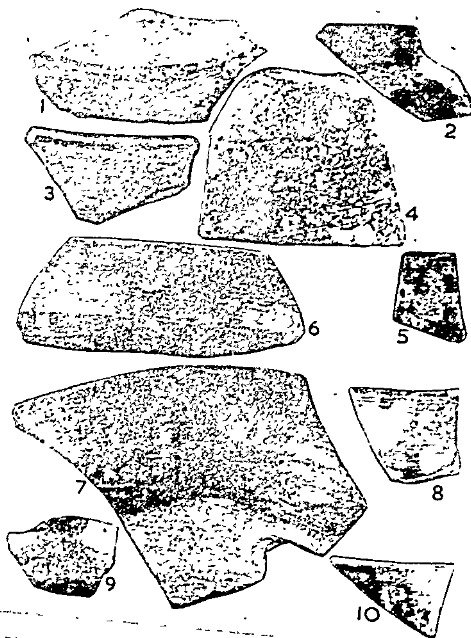


PLATE VI
Kausambi P.G. Ware:
A Late stage of Painted Grey Ware found in the lower levels of Kausambi

SOME SITES ASSOCIATED WITH THE MAHABHARATA STORY

RUPAR

HASTINĀPURA

DELHI

AHICHCHHATRĀ

ATRANJIKHERĀ

NOH

RAVALLI RANGES

VINDHYAS

KAUŚĀMBI

ALLAHABAD

KAYTHĀ

UJJAIN

SCHEMATIC PLOTTING OF C-14 DATES FOR THE PAINTED GREYWARE AND THE NORTHERN BLACK POLISHED WARE

THE DATES ARE BEFORE CHRIST. THE DOTTED LINES IN THE COLUMNS SUB-DIVIDE THE PERIOD INTO EARLY, MIDDLE & LATE

Fig. 2

HASTINAPURA 1950-51 SITE HST 2, SECTION

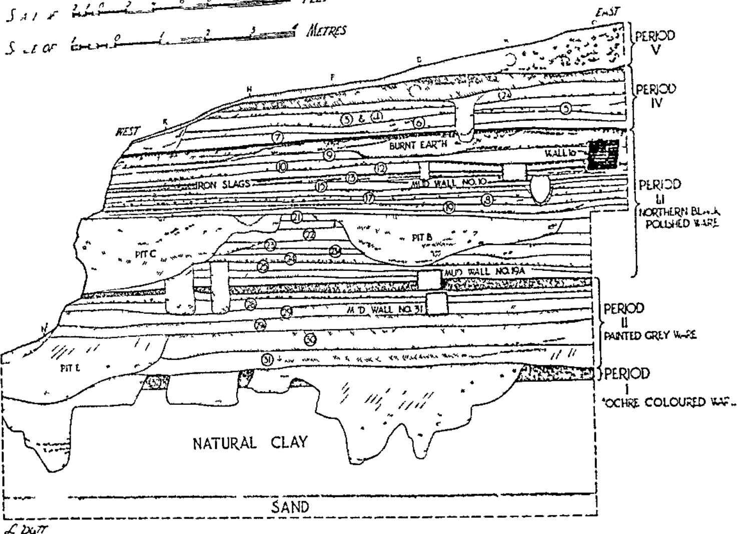




Fig 4

Kiratarjuniya panels from the Brihadaresvara temple, Tanjore
C. 800 A.D.
(After Sri Sivaramamurti)

Hence as a medium average for these contemporary eastern dynasties we must take something less than 19, and 18 will be a fair and *even liberal* estimate (italics mine)." (F.E. Pargiter, *Ancient Indian Historical Tradition*, reprinted, Delhi 1962, pp. 181-82).

That Pargiter's estimate could be 'liberal' is also indicated by certain other computations from Indian history itself. For example, from Qutubuddin Aibak, the first Muslim ruler of Delhi, to Bahadur Shah Zafar, the last Mughal ruler ousted by the British, there were 47 kings, the total duration of their reigns being 652 years. This gives an average of 13.9 years per ruler, which may be rounded off to 14 years. Perhaps it would be argued that the average of the medieval times should not be applied to the ancient period, as there were many coups and killings for the throne in the former, but let us also not forget that while these 47 kings did include some who had very short reigns, there are in this list many who ruled for more than 20 years and some even for as long as 38, 48 and 49 years. Thus, in a long-range assessment all the peculiarities get neutralized and the results can be safer than those obtained by computing the average from shorter dynasties. However, if we may wish to shift our discussion from the medieval to ancient times, we find that while the average of the Kaṇvas and Śuṅgas was as low as 10.5 and 11.2 years respectively, that of the Guptas was as high as 17.6 years. (In the last-named case if the existence of some debated kings is not accepted, the average may go up to 22 years.) Now while the king-lists of the various ancient dynasties are not beyond dispute, the generally accepted lists of the more well-known dynasties, viz., the Mauryas, Śungas, Kaṇvas, Śātāvahanas and the Guptas, put together, again give an average in the neighbourhood of 14 years per reign. Thus, though this average might appear to be a short one, it cannot be just brushed aside.

In this context it may not be out of place to mention that, although the readings in the Purāṇas differ, according to the version preferred and thus given in his translation by Pargiter, Nicakṣu was followed by his *eight sons*. If this version is accepted, it will have the effect of shortening the average reign per ruler, for in a more or less similar situation the Purānas say that the nine Nandas (*a father and eight sons*) ruled for a

total of 100 years only. Pargiter's translation of relevant statements in the Purāṇas are as follows :

"When the city Hastināpura is carried by the Ganges, Nicakṣu will abondon it and will dwell in Kauśāmbī. He will have *eight sons* (italics mine) of great might and valour. His eldest son will be Uṣna ; after Uṣna, Citraratha is remembered ; after Citraratha Sucidratha ; and after Sucidratha Vṛṣṇimat ; and after Vṛṣṇimat Suṣeṇa will be a pure king. After Suṣeṇa Sunītha will be king ; after Sunītha will be Ruca ; after him will be Nṛcakṣus. Nṛcakṣu's *heir* (italics mine) will be Sukhībala and Sukhībala's *son* will be Pariplava . . . ." (F.E. Pargiter, *The Purāṇa Text of the Dynasties of the Kali Age*, London 1913, pp. 65-66.)

"As son of Mahanandin by a Śūdra woman will be born a king, Mahāpadma (Nanda), who will exterminate all kṣatriyas. Thereafter kings will be of śūdra origin. Mahāpadma will be sole monarch, bringing all under his sway. He will be 88 years on the earth. He will uproot all kṣatriyas, being urged on by prospective fortune. He will have *eight sons* (italics mine), of whom Sukalpa will be the first ; and they will be *kings in succession* (italics again mine) to Mahāpadma for 12 years.

A brahmin, Kauṭilya, will uproot them all ; and, after they have enjoyed the earth for 100 years, it will pass to the Mauryas." (Pargiter, *ibid.*, p. 69).

Thus, if we take the average of 14 years per reign in the case of the Paurava rulers under consideration, the 24 kings before Udayana will give a total of 24 × 14 = 336 years. If we add this figure to 500 B.C., when Udayana was on the throne, we arrive at the figure of 836 B.C. This is, of course, not to say that the Mahābhārata battle was fought in 836 B.C. Far from it. The figure only gives an *approximate idea* of when it is likely to have taken place. Broadly speaking, therefore, the middle of the 9th century B.C. may not be an unreasonable estimate for the occurrence of the event.

Here it may also be well worth while to add that the Carbon-14 method of dating archaeological strata does not go against the date arrived at through the literary evidence in the foregoing manner. From the *middle levels* of the Painted Grey Ware Culture at Atranjikhera (Etah Dist., U.P.), comes the C-14 date of 1025±100 B.C. Likewise, the *middle levels* of

Noh in Rajasthan give the date of 820±225 B.C. It is thus clear that the Painted Grey Ware Culture may have begun somewhat before 1000 B.C. As is indicated by the evidence of Śrāvastī (Gonda Dist., U.P.), Ahichchhatrā, etc., and of Atranjīkhera itself, the Painted Grey Ware overlapped with the Northern Black Polished Ware sometime around 500 B C. This is further confirmed by the evidence from Rupar (Panjab) where there is a break of occupation between the P.G.W. and N.B.P.W. deposits and the C-14 dates for a lower level of the N.B.P. Ware deposits is 485±100 B.C. According to the C-14 method of dating, therefore, the P.G.W. Culture may be assigned broadly to *circa* 1000 – 500 B.C., with a margin on the earlier side.[1]

At this stage it must not be left unsaid that the C-14 dates themselves require to be corrected on the basis of the evidence of dendrochronology. For lack of space it would not be possible here to go into the details, but it would suffice to say that, according to the tables published by the Applied Science Centre for Archaeology, University of Pennsylvania, USA, the corrected date for 820 B.C. would be 900 B.C. and that for 1025 B.C., 1155 B.C. In effect then the Painted Grey Ware Culture in the upper Gaṅgā-Yamunā Valley would be ascribable broadly to *circa* 1100—600 B.C., while the end of the concerned settlement at Hastināpura, which took place *before* an overlap with the N.B P. Ware, *may be placed somewhere in the* later part of this time-bracket.

The above are facts as they emerge from the excavations and explorations of the sites associated with the Mahābhārata story. *We have got to accept them as they are, whether or not they fit into our pre-conceived notions about the date and*

[1]Readers would naturally be anxious to know as to why the C-14 dates for Hastināpura (4th century B.C. for the *upper levels* and 6th century B.C. for the *late middle* levels of the P.G.W. deposits) are not as old as those for the corresponding deposits of Atranjīkhera, Noh, Ahichchhatrā, Ropar, etc. The reason is not far to seek. The published scientific report clearly mentions that 'visible *rootless were hand-picked*' *from* the concerned charcoal samples. Since there is an immense overgrowth of trees on the mound, the roots must have been penetrating the lower strata all through the ages, resulting in the contamination of the sample. (Fig. 2)

cultural equipment of the Mahābhārata people.[1] This will have to remain the position unless we try to wriggle out by saying that what are known today as Hastināpura, Indraprastha, Mathurā, Kurukṣetra, Ahichchhatrā, etc., are not the same sites as referred to in the Mahābhārata. In that case let us wait till suddenly a new set of these sites, *with the same geographical setting as mentioned in the Mahābhārata*, emerges from the blue. The *terra firma* has not got another such set, I am pretty sure.



V.N. Misra

At Farrukhabad, on the western fringe ... and high mound on which are located the town-hall building, the water-reservoir and a few other structures. The mound, locally known as Bhishmapur and associated with Draupadi, is about 20 m. high, of which the upper 8 m. or so represent human occupation, and the lower part, deposit of river-silt. Its western and southern sides have been badly eroded by the Gaṅgā and now stand as vertical cliffs, virtually impossible to climb, except where cut up by rain gullies. Exploration of the sides brought to light a large quantity of Painted Grey and N.B.P. Wares. The shapes represented in the Painted Grey Ware included the dish, basin, bowl and a *lota*-shaped vessels. Associated with this Ware were a thin red ware, polished black ware and a small quantity of black-and-red ware. In the red ware a complete dish with incruved sides and sagger-base was found. Another dish with straight sides bore a painted design consisting of vertical strokes in white pigment over a red surface. The shapes represented in polished black ware consisted of the bowl and dish, similar to those of the Painted Grey Ware. Among other antiquities, mention may be made of several terracotta discs in grey fabric,

[1]Popular notions regarding the cultural equipment of the Mahābhārata people are evidently based on the now-available text, which, as already shown before, is unfortunately removed from the event itself by more than a thousand years. Thus, like all other epics, it must have drawn its description of houses and tools of warfare, etc., from the contemporary scene, i.e., of the 4th century A.D.

bearing incised decoration near the edges, and a broken terracotta figurine, possibly human. Similar discs have been found at Hastināpurā from comparable levels.

I also explored other parts of District Farrukhabad and went to Kāmpil (ancient Kāmpilya), 39 km. west of Farrukhabad township. On the north-western side of the town is a large mound, locally known as Draupadīgarh, covering an area of several square kilometres and 5 to 6 m. high. Its southern and eastern sides are covered by the present township, and the western side has suffered considerable erosion by the Gaṅgā. Almost the entire mound is under cultivation as a result of which it is uniformly flat. As such, only the upper surface seems to be disturbed. A large quantity of the Painted Grey Ware and other associated fabrics were collected from this site. Among other finds an incised terracotta disc is worth mentioning.

I have, therefore, reasons to believe that Prof. B.B. Lal's observations regarding the occurrence of the Painted Grey Ware at most of the sites associated with the principal story of the *Mahābhārata* and located in the Gangā-Yamunā Valley are to a very large extent correct. Kāmpilya was the Capital town of the southern Pāñchālas to whom belonged Draupadī, the queen of the Pāndavas



A.H. Dani

Recently we have excavated some ancient sites in Gāndhāra region but we have no written records from our excavations to supply names to the dead bones and the material culture unearthed by us[1]. Can we take the help from the literary materials

[1]When peninsular India was passing through the Post-Harappan phase of the chalcolithic cultures, the Swat Valley in the north-western frontier of Pakistan was witnessing the emergence and expansion of a similar phase of the chalcolithic culture. This happened in the second half of the 2nd millennium B C. and it was certainly a land-mark in the history of the Swat Valley including the Gāndhāra region. For the first time the people started disposing off their dead in a ceremonious manner. All along the valley, numerous cemeteries, with a variety of grave-structures, sprang up. The western part of this valley forms part of the Gāndhāra region.

In the Swat Valley, 'Gāndhāra' graves have been explored and excavated

and attribute those names to these dead bones ? Even if we do so, our conclusions will be purely hypothetical, subject to confirmation by future discoveries. However, it is well worth noting that in the same geographic region the earliest portions of the *Ṛgveda* speak of a people who appropriated for themselves the title of "Arya" as opposed to the conquered people. As our historical analysis has shown, in the next stage we come to the period of the later Vedic literature, the traditions as recorded in the *Mahābhārata*. The two historical periods coincide chronologically with the two archaeological periods and they agree with the two migrations of people from the west. The comparison can be further specified. In the *Ṛgveda* we know of, besides gold, only one metal called *Ayasa*,[1] generally taken to be copper, while in the later Vedic literature two metals are distinguished as *Tāmra ayasa* (copper) and *Kṛṣṇa ayasa* (iron)[2]. As regards the disposal of the dead it is noted : "The dead were either cremated or buried, and, if cremated, the ashes were regularly buried. This suggests that burial was the older method which was altered under the pressure of migration and perhaps the Indian climate"[3]. This Rigvedic reference accords very well

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severally by Italian missions and Pakistani expeditions. The former were mainly led by Stacul and the latter by A.H. Dani By now, more than a dozen cemeteries have come to light. Some of the important cemeteries explored are located near Timargarha, Thana, Butkara, Loebanr and Ketalai. The following chronological chart and periodization of the graves, based mainly upon C[14] dates, are self-explanatory.

Iron Age	PERIOD III (900-600 B.C.,)	It is characterized by post-exposure burials and post-cremation burials. Iron implements were found in the graves of the former category.
	X X XX	Break (?)
Copper Age	PERIOD II (1200-1000 B.C.)	It is characterized by post-cremation burials in urns. Copper objects were found in a number of graves.
	PERIOD I (1600-1300 B.C.)	It is charaterised by complete inhumations. Copper objects were found in a few graves.

(Eds.)

[1] *Cambridge History of India*, Vol. I, p. 89.
[2] *Ibid.*, p. 122.
[3] *Ibid.*, p. 9[illegible]

with the graves of Periods I and II. We can summarise the main features below:

(*i*) The geographic scence of archaeology and history opens in the same region.

(*ii*) The chronological period of both refers to the same time.

(*iii*) The knowledge of copper or bronze technology is seen at this time.

(*iv*) The disposal of the dead, first by burial and later by the addition of cremation, is also similar.

(*v*) Literary evidence brings the Aryans from the West. The archaeological evidence also connects the grave culture with the plain grey ware tradition of the West.

There is thus a prior basis for equating the literary materials of the *Rigveda* with those now brought forth from the archaeological excavations. If this is accepted, we will have to seek the identification of the second group of migration which introduced iron into our region along with a new wave of invasion. Their practice of fractional and multiple burial after exposure is not known to have received great sanctity in the Sanskrit literature. In fact the Hindus later chose only cremation as the main form of the disposal of the dead. But we do not know when this change took place. In our region archaeology has produced evidence for the persistence of the third type of burial. Even when Indian archaeology has not produced material to support this type of burial, the literary evidence as well as the archaeological materials speak of a tremendous change that came in the second stage as a result of violent outbreak. Can we not understand in that perspective the germ of events that latter became glorified in the *Mahābhārata*? It is only in the later Vedic literature that we find for the first time the name of the Kurus, whose descendants played so dominant role in the Mahābhārata war. It is these Kurus who spread out into the Gaṅgā valley and established the Kuru-Pāñcāla kingdom. It is after them that we have the name Kurukṣetra. Surely the Kurus must have played some special historical role in the past. Could we recognise them in the new migrating hordes who are found in period III graves?

The answer to this question can be given only after careful exploration and excavation in the Panjab. Meanwhile we turn to the

Indian archaeological evidence. As early as 1949 Mr. B.B. Lal paid a visit to the ruins at Hastināpur, located about 60 miles north-east of Delhi and referred to in the *Mahābhārata*. He writes : "In the lower levels of the mound was found a fine grey ware with designs executed in black pigment (hereafter called the Painted Grey Ware). This was super-imposed by another class of pottery known to archaeologists as the Northern Black Polished Ware......Painted Grey Ware also occurred at Ahichchhatra, another site mentioned in the *Mahābhārata*......the author undertook a trial-excavation at Tilpat, 11 miles south of Delhi, ... associated with the Mahābhārata story, and it was indeed gratifying to find there the same ceramic sequence as was observed at Hastināpura. This encouraged the author further, and he planned a systematic exploration of over thirty sites mentioned either in the *Mahābhārata* itself or alleged to have been associated with the story according to local tradition. The investigations more than fulfilled his expectations, since almost all the sites yielded the Painted Grey Ware from their lower levels"[4]. The chronological position of this Ware has been established by Lal in his excavation of the Hastināpura site. His main conclusions are quoted below in his own words[5] :

(*i*) That the Painted Grey Ware was later than the Harappa Ware.

(*ii*) That the Painted Grey Ware well-preceded the Northern Black Polished Ware, though there may have been subsequent overlap between the two.

(*iii*) That the painted Grey Ware occurs at large number of sites in the upper Gaṅgā basin.

(*iv*) That on the basis of (*i*) and (*ii*) above, the Painted Grey Ware may be placed somewhere within the limits of 600 B.C. on the one hand and 1500 B.C. on the other.

With this chronology fixed for the archaeological material, Lal brings in the relevant information from ancient Indian literature and says "that Hastinapura, Ahichchatra and Kampila were respectively the capitals of the Pauravas, and north and

[4] B.B Lal, "Excavation at Hastinapur and other Explorations in the Upper Ganga and Sutlej Basins 1950-52", *Ancient India*. Nos. 10 and 11, pp. 5-151.

[5] *Ibid.*, p. 150.

south Pāñcālas, who formed a part of the early Aryan stock in India". He finally concludes, "that a large number of sites associated with the Mahābhārata story contain the same ceramic industry, viz., the Painted Grey Ware, in their lower levels".

Even when we accept the sequence of the Painted Grey Ware and agree with the apparent correlation of this cultural sequence with that narrated in the main stories of the *Mahābhārata*, the date cannot be stretched back to 1500 B.C. This position was fully realised by Lal and, therefore, he dated this particular sequence at Hastināpura between 1100 and 800 B.C. It is clear that the Painted Grey Ware sites are apparently associated with the Mahābhārata stories, and if this association is based on any reality, the date of these sites should not be earlier than the main events narrated in this great epic. Lal himself is inclined to accept the date of F.E. Pargiter for these events, i.e., middle of the 10th century B.C.[6] Why do we begin to get the Painted Grey Ware sites at this time? Before we give the answer, we analyse the factors underlying the earlier date of 1500 B.C.

This earlier date is supposed on the basis of Lal's exploration of some sites in the Ghaggar and Sarasvatī valleys. But the later excavation of Dr. Y.D. Sharma at Ropar[7] has clearly shown a break between the end of the Harappa phase and the beginning of the Painted Grey Ware.[8] The duration of this break is not definitely known. Therefore, even if we accept the literary evidence, "that the combined stream of the Ghaggar and Sarasvatī is identifiable with the Sarasvatī and the Sutlej with the Sutudru, on the banks of which the early Aryans used to live", we have no means of fixing the date of "the early Aryans" in this region. Finding no clue in the excavations in India, Lal looked for comparative material in Iran and the West. He got hold of the same material in Iran, which we have cited elsewhere in detail. But as we have seen earlier, these materials are plain grey ware. Lal also referred to a few painted grey ware sherds from

[6]*Ibid.*, p. 149.

[7]Y.D., Sharma, "Exploration of Historical Sites", *Ancient India*, No. 9, pp. 116–169.

[8]S.R.,Rao, "Excavation at Rangpur and other explorations in Gujarat" *Ancient India* Nos. 18 and 19, 1962, pp. 193-94.

Thessaly in Greece, and some from Seistan,[9] and at the end he concluded, "The above-mentioned painted and plain grey wares with their sub-varieties, from Greece to Seistan *via* Iran, are assignable very broadly to the second millennium B.C. Within this period also falls the well-known inscription at Boghaz Keui (1360 B.C.) which records the names of Aryan deities like Indra, Varuṇa, Mitra, etc. This coincidence, though not having much weight in itself, cannot be altogether set aside, and it may be well worth the trouble to study the distribution of painted and plain grey wares while trying to work out the movement of Aryan speaking people in Western Asia and southern Europe."[10] And now we have the plain grey ware in our region falling in the same period. It is this background which must be kept in mind while considering the earlier date 1500 B.C. assigned by Lal to the lower limit of the Painted Grey Ware.

But we have seen in our region how there had been two main periods of invasion of these Grey Ware people. While the earlier date of Lal tallies with the first invasion in our region, we have so far no evidence for extending this invasion into East Panjab and the upper Gaṅgā Valley. But the second invasion came about the same time when the Painted Grey Ware culture is seen in upper India. Could we, therefore, not see the spread of this latter culture as a result of the second invasion from the West? A definite answer to this question will be provided only when our investigations are extended into the Panjab east of the river Indus.

Meanwhile, it is well to summarise the position as we get to-day from archaeology, anthropology and history. Archaeology has produced the materials for two waves of invasion of the plain grey ware culture; the first associated with bronze and the second with iron. This culture is different from the Indus Valley Civilization. Anthropology has brought forth two groups of western people in the graves at Timargarha, who are different from those buried in the Harappan cemeteries. At about the same time literary history has produced materials about a people who call themselves Aryans, who in the first instance

[9]Sir Aurel Stein, *Archaeological Reconnaissances in North Western India and South-Eastern Iran*, London 1937, pp. 118 ff. and Pl. XV.
[10]Lal, *op. cit.*, p. 147.

lived in the land of the Sapta Sindhu and in the second stage, possibly after the Mahābhārata War, spread out into the upper Gaṅgā valley. All these coincidences occurred between the end of the Indus Civilization and the beginning of the historic period in the 6th century B.C. There is thus a strong basis for correlating the materials from different sources and viewing in that perspective the appearance of the hypothetical Aryans in history.

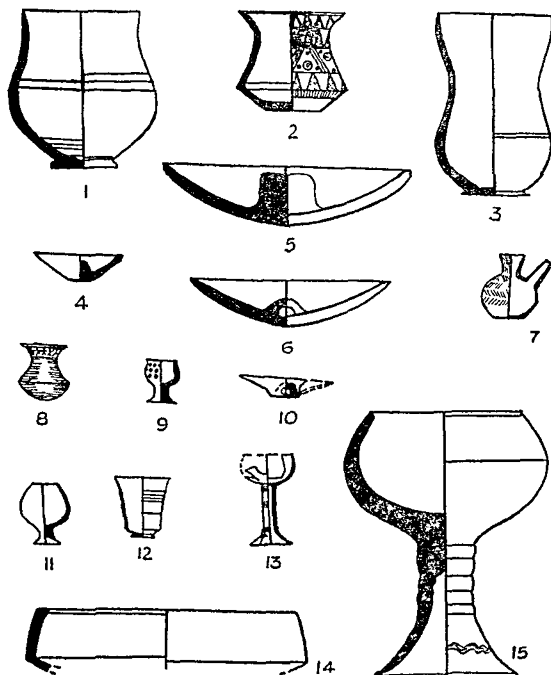


Fig. 5 Gāndhāra Grave pottery along with some comparable forms from other sites.

R.C. Gaur

Lal[1] has convincingly argued that the P.G.W. was associated with the Mahābhārata Period, as the ware has invariably been found on a large number of sites associated with the Mahābhārata story. It is interesting to note that its distribution is confined within the limits of Manu's definition of *Madhyadeśa*[2] with an exception in the west. It may further be observed that Manu's *Madhyadeśa* was divisible into three provinces, viz., (1) the region between *Sarasvatī* and *Dṛṣadvatī*, (2) the region between *Dṛṣadvatī* and the Gaṅgā up to Mathurā and (3) the region between Mathurā and Prayāga. These three zones were known earlier as *Brahmāvarta*[3], *Brahmarṣideśa*[4] and *Madhyadeśa*[5] respectively. Though Manu's work belongs to a much later date, it appears that the earlier traditions (as is indicated by the use of past perfect tense) have been recorded accurately in it.

However, according to *Baudhāyana*[6] the land lying to the east of Vinaśana, to the west of Kālakavana, to the north of Pariyatra and to the south of Himālayas was known as Āryāvarta or the country of Āryans.[7] Vaśiṣtha's[8] account is also more or less the same, with the only difference that instead of making a reference of Vinaśana, he places the Āryāvarta to the east of the region where river Sarasvatī had dissappeared. However, according to *Mahābhārata*,[9] Vinaśana was a holy place (*tīrtha*) where Sarasvatī had disappeared. Thus Manu's definition of Madhyadeśa tallies with the *sūtra* account of Āryāvarta, and the three boundaries given by him are identical with those of *sūtra* literature.

[1]Lal, B.B., "Excavations at Hastinapura and other explorations in the Upper Ganga and Sutlej basins 1950-52", *Ancient India* Nos. 10-11, New Delhi 1954-55 p. 147-51. 'P.G.W.' stands for Painted Grey Ware.

[2]*Manusmriti*, II, 21.

[3]*Ibid.*, II, 17.

[4]*Ibid.*, II, 19.

[5]*Ibid.*, II, 21.

[6]*Baudhāyana Gṛihya Sūtra*, 1.1.27; *Sacred Books of the East*, Vol. XIV, p. 147.

[7]For a critical study about the Aryan expansion in the post-Ṛgvedic period, see my article in Indian History Congress Proceedings of the 32nd session, Jabalpur 1970, pp. 39—49.

[8]*Vaśiṣṭha Dharma Sūtra*, 1.8.13; *Sacred Books of the East*, VIV, pp. 2—3.

[9]*Mahābhārata (Vanaparva)*, 82, III.

7 : Axe, knives and bangle Period III P G. Ware level from Atranjikhera

8 : Period III P.G. Ware levels from Atranjikhera

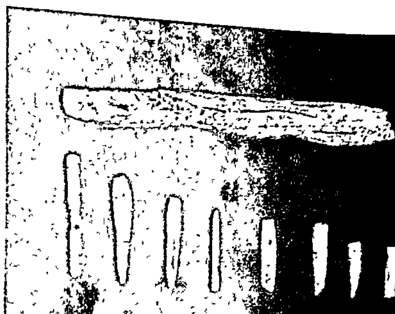
eft to right
-3=clamps
-6=chisels
-10=borers
1 =needle





9. Arrow heads and spear heads Period III P G. Ware level from Atranjikhera

10: Chiseles Period IV N.B P. Ware levels from Atranjikhera



Vaśiṣṭha's statement that Pariyātra and the Vindhyan ranges in the south of Āryāvarta has made the identification of Pariyātra with Aravalli range[10] much easier and the southern limit of the Āryan country more precise. Likewise, Kālakavana of the *Sūtra* literature would have been somewhere in the near vicinity of Prayāga (Allahabad). The *Anguttara Nikāya*[11] informs us that the Buddha had once stayed at *Kalakārāma* in Sāketa and delivered his *Kalakārāma-Sutta*[12].Thus Kalakārāma was somewhere beyond Prayāga, perhaps near river Rapti. As already referred to above, no P.G.W. site has been found so far beyond Rapti in the east and Vindhayan mountain in the south. The archaeological evidence fully corroborate the *Śatapatha Brāhmaṇa*[13] which tells us that till the time of Videgha Mathava, river Sadānīra was not crossed by the Aryans since the land beyond it, was uncultivated and marshy and was not burnt down.

River Sadānīra has usually been identified with the modern Gaṇḍaka which does not seem a correct view if geographical factors are taken into account[14]. Moreover in the *Mahābhārata*, as pointed out by Oldenberg[15] Gaṇḍakī and Sadānīrā have been referred to as separate rivers. Pargiter[16], therefore, identified the Sadānīra with the Rapti which seems more reasonable because the Painted Grey Ware has not been found beyond Rapti. Kauśāmbī[17] in the south-east and Sohgaura[18] (Gorakhpur) in the north-east on River Rapti, marks the eastern limit of the P.G.W. The southern limit is denoted by Ujjain, Kayatha and Besnagar, all in Madhya Pradesh and on northern side of the Vindhyan range. However, these sites represent sporadic and later spread of the industry, while the main concentration starting much earlier was in the upper-*doab*, broadly, in the two provinces of Āryāvarta referred to above.

10 *Cf.* Chakladar, *Aryan Occupation of Eastern India*, Calcutta 1962, p. 8.
11 *Anguttara Nikāya*, II, 24.
12 *Mahābodhi Vaṃśa*. Vide P.T.S., pp. 14-15.
13 *Śatapata Brāhmaṇa*, 1.4.1.17; also P.L., Bhargava, *India in the Vedic Age*, Lucknow 1956, pp. 142-43.
14 Gaur, *op. cit.*
15 *Mahābhārata*, II 20-27; Oldenberg, *Buddha*, p. 398; vide, H.C., Raychoudhary, *P.H A I*, Calcutta, 1953, p. 52.
16 *Cf.* '*Historical traditions*'; also Gaur, *op. cit.*
17 *Cf.* G.R , Sharma. *The Excavations at Kauśāmbī*, Allahabad, 1957-59.
18 *I.A.R.* 1961-62, p. 56.

There are frequent references to dense forests in the *Śatapatha Brāhmaṇa*[19] as well as in the *Aitareya Brāhmaṇa*[20]. These forests could not be cleared without iron except for narrow strip on the low water-shed between the Panjab and the Gaṅgā basin.[21] This factor would have detained the Aryans for sometime in the region between the Sarasvatī and Yamunā with its centre at Kurukṣetra[22] and around Delhi. A detailed account by the traditional method of burning is given in the *Mahābhārata.*[23]

With the help of the iron tools and implements, it became very easy for the Aryans to penetrate in the upper *doab* of the Gaṅgā-Yamunā Plain. On the basis of the C-14 dating (1025± 110 B.C.) related to the mid-phase of the Painted Grey Ware deposit at Atranjīkherā (Distt. Etah, U.P.) and the stratigraphy it may be inferred that the people of this culture settled down in the Gaṅgā Valley sometime in the latter part of the 2nd millennium B.C.

Recently, Nihar Ranjan Ray,[24] while commenting upon John Irwin's lectures on Aśokan Pillars, has made a pertinent statement that "heavy and sophisticated tools and implements of iron could not have made their appearance felt in the Yamuna valley or the Gaṅgā basin before the fourth century B.C., indeed not before *c.* 326 B.C." However, recent excavations at P.G.W. sites[25] present altogether a different picture by which the antiquity of iron industry is pushed back by several centuries earlier in the Gaṅgā-Yamunā valley. At Atranjīkherā iron objects have been found in practically all the layers, from the very beginning, suggesting that the use of iron was common throughout the P.G. Ware period. However, majority of them come from upper phase. In all, one hundred and thirty-five iron

[19] *Śatapatha Brāhmaṇa*, 13.3.7.10.

[20] *Aitareya Brāhmaṇa*, 3.4.4.

[21] *Cf.* D.D., Kosambi, *The Culture and Civilization of Ancient India—in Historical Outline*, London 1965, p. 11.

[22] Macdonell and Keith, *Vedic Index*, I, pp. 169-70; *Cf.* Raychoudhary, *P.H.A.I.*, Calcutta 1953 pp. 22-23.

[23] *Mahābhārata, Khaṇḍava Vana Parva* I. 222-234; 1.2.3.16; vide S. Sorensen, *Index to the names in the Mahābhārata*, Delhi, 1963, p. 738.

[24] *The Hindustan Times*, January 25, 1976. Also see Foreword to this book.

[25] (*i*) Noh—*IAR* 1963-64, 1964-65 (*ii*) Alamgirpur—*IAR* 1958-59, (*iii*) A subsequent excavation at Hastināpura yeilded iron blades, nails and knife-blades.

objects were recovered from this period, including seven pieces of iron slags and fourteen indeterminate objects. The determinable items comprised fourteen varieties, viz., arrow-heads, spear-heads, shafts, a pair of tongs, hooks, nails, clamps, chisels, bars (rods), borers, a needle, an axe, knives and bangles. These could broadly be divided into four groups: (*i*) arms, (*ii*) tools of artisans (*iii*) household objects, and (*iv*) ornaments.

These items throw sufficient light on the profession and class structure of the society. The presence of iron objects in such a prolific number and the discovery of furnaces, slags and certain specific tools used by blacksmiths, suggest that the iron goods were manufactured at the site itself. It can also be inferred that the smelting of ore was also practised by the P.G.W. people of Atranjikherā. The main source of iron, most probably, was the region extending from south of Agra to Gwalior, in the rocks wherein iron content is considerably high.[26]

The significance of iron industry in such remote past cannot be over emphasized. Obviously, black-smiths would have constituted a well-established class of skilled workers in the society of that period. Artisans practising different crafts also appear to have constituted an important section of the society as is evident from the finds of several types of iron items, such as axes a pair of tongs, nails, clamps, chisels and borers, which formed the tool-kit. The presence of iron arrow-heads and spear-heads suggests that these were used both for war and chase. Though the plant-study has shown the presence of cultivated wheat, rice, barley and pulses during this period, it is surprising that not a single agricultural implement has been found so far during the course of excavation.

However, they begin to appear in the following period of the N.B.P. Ware, around *c.* 600 B.C. Many other new items, particularly related with structural activity, are now found on a considerable scale. Without going into their details, the following chart of a few selected items will indicate that how rapidly the process of urbanisation was at work which ultimately led the growth of the sixteen *Mahājanapadas* with their developed urban capitals much before the birth of the Mauryan Empire.

[26] *Cf.* V.K., Srivastava, 'Could the Agra-Gwalior region support an indigenous iron industry during protohistoric times ?' ; *Proceedings of the P.G.W. Seminar*, 1968 (ed. R.C. Gaur—in Press).

A FEW SELECTED IRON OBJECTS FROM THE ATRANJIKHERA EXCAVATIONS IN PRE-MAURYAN TIMES

Items	*P.G.W. Culture,* (*Pd. III*) *c. 11000-600 B.C.* (objects of this period have been classified under 16 heads) *Nos.*	*N.B.P. Culture, Pd. IV* (*Lower Phase*) *c. 600-350 B.C.* (objects of this period have been classified under 31 heads) *Nos.*
1. Arrow-heads, spear-heads and shafts	39	45
2. Chisels	6	13
3. Borer	6	18
4. Axe	1	1
5. Pair of tongs	1	2
6. Clamps	21	33
7. Knives	3	9
8. Agricultural tools (sickle, ploughshare, Hoe, spud, etc.)	nil	6

MAHĀBHĀRATA, P.G.W. AND C^{14} DATES

D.P. Agrawal and Sheila Kusumgar

In India where the first definite date is as late as 326 B.C. marked by Alexander's invasion, the importance of chronology in prehistoric archaeology needs no emphasis. Chronology alone provides an ordered frame of reference to the archaeological data to enable one to discern the prehistoric patterns. In India it is all the more important as much of our history too has become prehistory, in so far as the Indus script has not been decoded. Even if it were deciphered, no detailed written records have survived. After the Harappans and till the Mauryan times, there are no written records available at all. Unlike Mesopotamia and Egypt, where one can build historical chronology right upto the third millennium B.C., we have to depend here only on scientific means of dating even in this 'historical' period. It is, therefore, referred to as 'Protohistoric' period.

Till recently archaeologists had only two tools of dating : (*i*) superposition of layers, and (*ii*) typological considerations. In the last two decades the natural sciences have come out with a variety of methods of dating to provide them with sharper chronometric tools.

Today we have a host of dating methods, both relative and absolute. A number of techniques are still being developed, like dating based on the advance of dehydration in the obsidian artifacts, on patination, etc. But perhaps the major break through has been the radiocarbon dating method. The impact of radiocarbon dating has been so profound the world over that Daniel (1968) has said :

"It is no exaggeration to say that the discovery of radiocarbon dating is the most important development in archaeology since the discovery of man..."

In India there were scholars who seriously doubted the antiquity of the chalcolithic cultures when discovered first by Prof. Sankalia. Scholars like Gordon and Wheeler never believed that iron in India went back any further than *c.* 500-400 B.C. Even the southern neolithic cultures were never placed beyond the first millennium B.C. by Wheeler. All these intelligent guessworks—justifiable at the time they were made—have now given way to consistent chronologies, generally pushing back the antiquity of these cultures by several hundred years.

Willard F. Libby discovered and developed this revolutionary method of dating and was awarded Nobel Prize in 1960 in recognition of the value of the method and the theoretical perception behind it. Radiocarbon dating has made a very profound impact on the archaeological research the world over. About five hundred C^{14} dates of Indian archaeological sites are available today, as a result of an extensive dating programme launched earlier by the Radiocarbon Laboratory of the Tata Fundamental Research Institute and now by the Physical Research Laboratory, Ahmadabad.

It may, however, be mentioned that the radioactive decay does not take place at a uniform rate, but is a random process, and is, therefore, governed by the laws of statistical probability. Generally, the errors quoted on dates are of one standard deviation, the level of confidence for which is 68·3%. For errors of 1·5, 2·3 and 3·5 times the standard deviation, the probabilities of the observed date being correct within the given errors are 86·6, 95·5, 99·7 and 99·9%, respectively. The errors are very important in order to assess the order of events.

In recent years, with growing sophistication in techniques of radioactivity detection, it has been found that there is some discrepancy between the C^{14} dates of tree-ring material and its dendrochronological ages. These discrepancies could reflect changes in the C^{14}/C^{12} in the past. But if these variations are genuine and their magnitude as large as shown by dendrochronological samples, there is no concordance amongst the samples dated by archaeology, varve chronology, etc. In fact, our unpublished studies indicate that archaeologically well-dated samples show less than $\pm 4\%$ variation in the Third millennium B.C., and less than $\pm 2\%$ in the Second millennium B.C.

RADIOCARBON DATES AND THE EARLY IRON AGE SITES IN NORTHERN INDIA

We will now discuss the early iron-using cultures of the *Doab* (present-day Uttar Pradesh) since some of them have been associated with the Mahābhārata period, particularly the P.G. Ware. In the Western *Doab*, the first appearance of iron is associated with the P.G. Ware Culture. As far as the archaeological evidence goes, there are no datable West Asiatic parallels for these cultures. We are, therefore, left with only the literary and stratigraphic data to go by.

B. B. Lal, the excavator of Hastināpura[1], the first site which provided a stratigraphical context to the P.G. Ware, has tried to estimate its date in the following way. Describing the cultural succession at the site, he says, "the third occupation (Pd. III) came into being after an appreciable lapse of time. During this interval the people had completely given up the P.G. Ware and had developed instead the N.B.P. Ware. The plain grey ware also had degenerated to a considerable extent and several new forms had come into being. Mud-bricks were replaced by burnt-bricks, iron had come into use and a system of coinage introduced. All these change would have certainly required a couple of centuries." Thus, Lal dated the end of the P.G. Ware at Hastinapura to *c.*800 B.C. (taking *c.* 600 B.C. as the beginning of the N.B.P. Ware). For the 2·1 metre habitational dèbris of Pd. II he assigned another three centuries, thus placing the appearance of the P.G. Ware *c.* 1100 B.C. with a probable margin on the earlier side.

In dating both the P.G. and N.B.P. Wares the associated red ware shapes, are equally important. In fact, they are more sensitive to time changes, than the P.G. and N.B.P. Wares. Both the N.B.P. and P.G. Wares are *de luxe* wares. At Atranjīkherā, the P.G. Ware is only 3—10%; no quantitative distribution is available from Hastināpura. Lal has, however, recorded that there were only 101 sherds of N.B.P. in Pd. III deposit. Admittedly, this is very meagre for two seasons' yield and emphasises the *de luxe* nature of the ware.

[1] Hastināpura Pd I : O.C. Pottery
Hastināpura Pd II : P.G. Ware
Hastināpura Pd III : N.B.P. Ware
Hastināpura Pd IV : Early Historical.

Perhaps to equate the P.G. Ware with the Aryans, and therefore with the destroyers of the Harappa culture (its end was put to *c.* 1500 B.C. at that time), Lal's chronology had a bias towards older dating, hence he gave longer durations to each gap between the consecutive periods. To quote Gordon, "......Pd. IV which contains a definite Gupta terracotta and moreover nothing that can be dated from 50 B.C. to A.D. 400. Then there is a break—the town was burnt down. But why one of a hundred years? Fifty would be ample. It is doubtful whether Pd. III lasted more than 250 years, as there is nothing to account for a longer duration, the dating of the N.B.P. prior to 400 B.C. being highly debatable, and the terracotta figures all being 2nd and late 3rd Century B.C. Before Pd. III there is again a break following on the settlement in part washed away by the Gaṅgā. Here, because of the dating of the Painted Grey Ware back to 1100 B.C. fits a theory of Vedic origins, an unnecessary long gap of 200 years is postulated when 100 at the outside would suffice......Lal's dates for the beginnings of Pds. II and III are 1100 and 580 B.C., but there is a good case, if not better, for substituting 700 and 350 B.C." Wheeler also commented, "If the initial date of the N.B.P. in the Ganges region be placed somewhere in the 5th Century B.C...the beginning of the P.G. Ware might be ascribed to the 8th Century B.C."

Let us critically examine Lal's dating of the P.G. Ware further. It was based on the following factors :

(*i*) Correlations of Mahābhārata episodes with the desertion of Hastinapura;

(*ii*) Absence of iron in the P.G. Ware levels;

(*iii*) Gap between the P.G. Ware and the N.B.P. ; and

(*iv*) An early dating of the N.B.P. Ware.

We will take up the points (*ii*) and (*iii*) first, the dating of the N.B.P., (*iv*) will be discussed separately. The association of the P.G. Ware with Mahābhārata is too circumstantial an evidence to be tangibly discussed. Tandon from Alamgirpur and Gaur from Atranjikherā have now reported iron from the P.G. Ware levels. Even from Hastināpura, subsequent excavations by Lal and Pande have brought to light several iron objects. The P.G. Ware, therefore, is now unanimously accepted as an iron using culture. [Recent excavations at Bhagwāpurā have yielded not a single iron artefact—Eds.]

The gap between the Harappan culture and the P.G. Ware

has been established at all the sites. In Bikaner region the two cultures are never found on the same site. The Black-and-red Ware is still an enigmatic problem in U.P. Now the identification of distinct Black-and-red Ware deposit, devoid of the P.G. Ware and preceding it, is Gaur's important contribution from his Atranjīkherā excavations.

A big flood (there are differences about its extent and magnitude though) coincides with the desertion of Hastināpura after the P.G. Ware period. Lal equated this event with the Purāṇic reference, "when the city Hastināpura is carried away by the Gaṅgā, Nicakṣu will abandon it and will dwell in Kauśāmbī". After the flood gap, the N.B.P. occupation starts. Other sites, *e.g.*, Atranjīkherā, point towards a continuity between the P.G. Ware and N.B.P. deposits and the ceramic traditions. Śrāvastī yielded a few sherds of the P.G. Ware from earliest levels of the N.B.P. period. Some of the bowls and dishes exhibit identity of shapes. The Hastināpura gap, therefore, is a very local phenomenon. In this connection we will also have to discuss : (*i*) the respective epicentres and distribution zones of the P.G. and N.B.P. Wares ; (*ii*) the associated red ware types of the two wares.

The distribution of the two wares shows that the P.G. Ware extends in an area with extreme points at Lakhiyopir in Sind, Gilund, Kannauj and Ropar ; the N.B.P., on the other hand, is spread from Brahmapurī in the south to Ropar in the north, from Prabhās Pātan in the west to Bāngarh and Chandraketugarh in the east. Unfortunately, the frequencies of the P G. and N.B.P. wares in the total ceramic assemblages for various sites are not available. Still it can probably be emphasised on the basis of available evidence that the P.G. Ware had its epicentre as also the concentration zone in the western U.P., and east Panjab ; whereas the N.B.P. had an eastern origin, probably in Bihar. The utilisation of the Bihar iron ores and the spread of the N.B.P. too may be connected in some way. In this context, the ferruginous slip that imparts the N.B P. its distinctive gloss looks very meaningful indeed.

On the basis of the foregoing discussions we suggest the following possibilities :

(*i*) A red ware industry forming a sort of a substratum in the *doab* on which impinge the P.G. Ware from the

west and the N.B.P. from the east (Bihar).

(*ii*) The red ware shapes common to the P.G. Ware in the west and the N.B.P. in the east suggest some contemporaneity, between the two, with the probability that the P.G. Ware had an earlier beginning.

(*iii*) A clear temporal succession of the P.G. Ware and the N.B.P. in the spatial zones of overlap may represent a stage when the ecological barrier of the thick *doab* forests was more or less cleared.

(*iv*) The degenerate P.G. Ware of Rājghat, Vaiśalī and Kauśāmbī is much later than at its home in the west.

(*v*) The western and the southern N.B.P. is later than its eastern counterpart, as indicated by the association of the post-N.B.P. red ware types of the east.

(*vi*) A straight line linking Tilaurākot (Nepal), Śrāvastī and Kannauj should effectively divide the original zones of the P.G. and N.B.P. Wares.

Very rewarding would be a study of the total assemblages and the red wares associated with the P.G. and N.B.P. Wares. As stated above, the limited available data on the frequency of the P.G. Ware (*e.g.*, 3-10% at Atranjīkherā) and the N.B.P. in the total ceramic assemblage shows that both of these are essentially *de luxe* wares. So, a detailed study of frequency distribution will clearly bring out : (*i*) epicentres and concentration zones of the P.G. and N.B.P. Wares ; and (*ii*) their *de-luxe* nature.

We will now study the associated red ware shapes. We find that the peach-shaped wanes (Ahichchhatrā 10A type), carinated *hāndī*, and miniature bowls are found with the N.B.P. at Hastināpura, Ahichchhatrā, and even at Prākāsh. But these very shapes are post-N.B.P. in Śrāvastī and Rājghāt. On the other hand, many Hastināpura Pd. II red ware shapes occur at Śrāvastī along with the N.B.P. Ware ; they are also reported at Rājgir and Vaiśalī. Sinha, in fact, goes further and says that the corrugated bowl "would lend further weight to the assumption that the P.G. Ware, the Black Polished Ware and N.B.P. represent basically a common tradition—particularly in the form of fabric conception, and that on this consideration any substantial time gap between the wares is not justified." We, however, feel that four facts militate against the probability of

a common stock of the P.G. Ware and the N.B.P. : (*i*) their primary distribution zones are different ; (*ii*) the unique painting tradition of the P.G. Ware ; (*iii*) the finely controlled firing of the P.G. Ware to produce the characteristic grey colour ; and (*iv*) the special slip which provides the distinctive gloss of the N.B.P. The similarity of facric is only due to the same alluvial clay of the *Doab* available for both the ceramics.

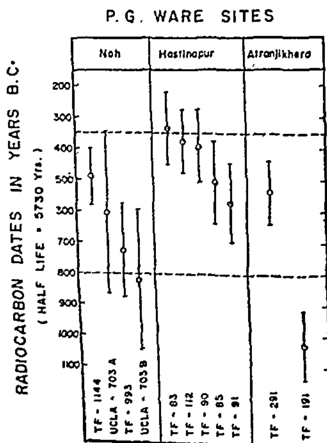
We have seen that the clear temporal succession of the P.G. and N.B.P. Wares as seen at Hastināpura may only be partially true. If we take spatial distributions also into account a period of contemporaneity, though not essentially contact may also be discerned for these two wares.

The P.G. Ware can no more be called 'Chalcolithic', and with that appellation goes the aura of its antiquity. It is evidently an iron-using culture, partly contemporaneous with the N.B.P. and coming well upto the threshold of urbanization in the *doab*. On the whole, a beginning before 1100 B C. of the P.G. Ware is thus untenable. In the archaeological evidence there is nothing to suggest a greater antiquity than *c.* 9th-8th Century B.C. for this ware. In this light, Wheeler's estimate of *c.* 800-500 B.C. seems to be quite plausible.

P.G. WARE C^{14} DATES

We have eleven C^{14} dates now from the P.G. Ware levels from Noh, in Rajasthan, and Hastināpura and Atranjīkherā, in U.P. There are a couple of more dates (*c.* 400 B.C.) from Ahichchhatrā and Kāyathā, but their pure P.G. Ware association is not definitely known, and hence have not been taken intc consideration. The four C^{14} dates from Noh have a clear bias for older ages, despite their large errors. On the basis of TF-993, 725±150 and UCLA 703B, 820±225 we may place the beginning at *c.* 800 B.C. The end of the P.G. Ware has to be placed somewhere in the fourth century B.C., as indicated by the Hastināpura dates. From Gaur's paper at Aligarh *Seminar* 1968 it appeared that they have two more dates from a foreign laboratory which fall in the sixth century B.C. The plot of the C^{14} dates clearly shows that TF-191, 1025±110 is a divergent date and does not fit in with the other consistent dates. The dates further point out the antecedence of Noh over

both Hastināpura and Atranjīkherā. A date bracket of c. 800 to 350-400 B.C. reasonably covers the spread indicated by the C^{14} dates.* (We should wait for dates of Bhagwānpurā samples —Eds.)



Plot of the C^{14} dates of the P.G. Ware sites.

*Chart of C^{14} Dates may be seen on Page No. 45.

MAHĀBHĀRATA AND ASTRONOMY

S.B. Roy

The object of this essay is very humble viz., to give a simple, non-technical and succinct account of the astronomical determination of the date of the Bhārata battle. The position of the sun and the moon among the *naksatras* on different dates will be collected from the *Mahābhārata* in terms of the lunar calendar then in use. Then, the position and the *tithi* of the winter solstice will be determined. These will be sufficient to estimate the epoch of the battle *to a first approximation.* The margin of error will also be given. For an extensive discusion of the recent development of the two new sciences of archaeo-astronomy and ethnoastronomy, please see the author's comments in the *Current Anthropology*, 1973.[1]

Many statements are available in the *Mahābhārata* about astronomy and astrology, but most of them are not crucial to the main story and, therefore, cannot be relied upon as belonging to the original layer. Some of them are demonstrably late interpolations. On the other hand, there are certain statements which appear at crucial junctures and are obviously an integral part of the original battle story : they alone will be considered here. It can be taken that they belong to the original Vaisampayana edition of the Bhāratasaṁhita. Some of these statements are as follows :

1. [IV : *Virata*: 52, (1-4)] Pitāmaha Bhīṣma states : There are two intercalarly (extra) months in five years. This principle formed the basis of the later *Paitāmaha Siddhānta.* In this passage Bhīṣma also specifically mentions planets.

2. Before the battle had commenced, Kṛṣṇa had made a last and final attempt at reconciliation. For this purpose he

[1]E. Baity, 'Archaeoastronomy and ethnoastronomy today', *Current Anthropology*, Chicago, Oct. 1973, with the author's comments thereon, p 436.

started from Upaplavya, Balarama was also there and advised peace, but his words were not accepted.

3. Kṛṣṇa went to Hastinapura and the parleys went on. This took some days and the peace offer was finally rejected by Duryodhana. Kṛṣṇa left with Karṇa to win him over, if possible. Karṇa refused to give up Duryodhana and finally, Kṛṣṇa told him :

(V : *Udyoga* : 142: 18) "After seven days, there will be '*amāvasya*' (new moon) at Antares. Begin the war preparations on that auspicious day because it is the day of Indra, the Lord of victory".

This means that :

(*a*) The talks finally broke down on *Kṛṣṇa Aṣṭamī* (and the *nakṣatra* must have been *Pūrva Falguni*).

(*b*) The following new moon was at (or near) Antares i.e., the sun was also at (or near) Antares on that day.

(Tarakeshwar Bhattacharya[1], considers that the battle commenced on this day, and, as the solstice took place 68 days thereafter; the solstice was at 317·5 degrees giving the date of the battle at 1432 B.C.)[2]

4. (VI : *Bhīṣma* : 2-23) On the eve of the battle, Vyasa met Dhritarastra at night. He said that it was *Kārtiki Pūrṇimā* and the moon was lustreless. The full moon, therefore, was either at *Krittikā* or *Rohiṇi* : and further, the sun *must* have been near *Jyeṣṭha* (Antares). It means that the battle commenced on the 'First day of the dark fortnight of *Mārgasīrṣa* (*Agrahāyaṇa*) *and the sun was at Antares*. Further, moon was at *Mrigasira* and the *Gītā* was announced that day, i.e., on *Margasīrṣa Kṛṣṇa Pratipāda* and the lunar months were *Pūrnimanta*. (If the months are taken to be *amānta* then Bhīṣma's death would be in *Pauṣa*, but it is known that he died when *Māgha* had began (see *infra*).

It further follows that on the 69th day when the Bhiṣma died it was *Kṛṣṇa aṣṭamī-navamī of Māgha*, (however, see 12 *infra*).

[1]T. Bhattacharya, 'The Bhārata Battle', *Journal of the Ganganath Jha Research Institute*, VIII (1950-51), pp. 1-75 and 315-53.

[2]We also agree that the sun was at Antares, on the eve of the battle, but consider that it was a *Kārtiki* full moon at *Rohiṇī*. (Aldebaran) and hence, sun at *Jyeṣṭha-Rohiṇī* (Antares). see *infra*.

5. (VIII : *Droṇa*: 185, 48) On the fourteenth day of the battle, fighting continued at night. Ghaṭotkaca fell in that night battle. The important point is to note is that the moon rose late towards the close of the night. It was, therefore, Kṛṣṇa 13-14th.

6. (X : *Śalya*: 34-6) On the eighteenth or closing date of the battle, the moon was at *Śravaṇa*. It was the day of the mace-battle between Duryodhana and Bhīma : Balarāma had just returned from his tour.

7. (*Ibid.*) Balarāma said clearly that he had started in *Puṣya*, and after 42 days had returned in the *nakṣatra Śravaṇa*. This is verified as follows :

Puṣya to *Punarvasu* =27 *nakṣatras.*
Puṣya to *Śravaṇa* =15 *nakṣatras.*
42 *nakṣatras*

This shows that Balarama's version was correct.

8. (VI : *Bhīṣma*: 119, 96-105) Bhīṣma died just after the *Uttarāyana* i.e., just after the winter solstice. This is the key to the determination of the epoch of the Mahābhārata battle.

9. (VI : *Bhīṣma*: 119) Bhīṣma fell on the tenth day of the battle i.e., on the *Mārgaśīrṣa Kṛṣṇa*, tenth. Some migratory birds which are season-indicators, appeared and they knew that solstice was still two months away. Bhīṣma decided to live till the solstice occurred and the sun turned north.

10. (XIII : *Anuśāsana*; 167.27) After his fall, Bhīṣma lived for fifty-eight nights on the bed of arrows. This means that Bhīṣma died 68 days after the battle had began.

11. (XIII : *Anuśāsana* : 167-5-6) *Uttarāyana* i.e., the winter solstice took place just then (and it was determined by expert observers in the morning).

12. (XIII : *Anuśāsana* : 167-28) Bhīṣma said it *ought to be Māgha Śukla Tritīya,* whereas it was actually the eighth day of the dark fortnight.[1]

From these observations a battle-calendar can be prepared. This is given in annexure I.

[1]This is thus a *Vyasakuta*—one of the knotty *ślokas* composed by Vyasa himself: This crucial *śloka must, of necessity,* belong to the original Vyasian text i.e., the first layer. For an intensive discussion of the *śloka,* and why it is called a *Vyasakuta,* see S.B. Roy, *AIC,* pp. 37-41.

Computations of the date of the battle is now given.

FIRST APPROXIMATION

On the day the battle commenced, the sun was at Antares (249.30°). *Uttarāyana* took place 68 days thereafter i.e., at 317°.

Uttarāyana at the epoch of the battle=317°

Uttarāyana today (base year=1970 A.D.)=270°

Hence, the precession=47°

Rate of precession=72 years per degree.

Hence, the time lapsed=3384 years.

Epoch of the battle=1414 B.C.

This is the first approximation.

Lower limit : Bhīṣma clearly stated that the month of *Māgha* had well begun. The *Jyotiṣa Vedāṅga*, begins with the solstice at the junction of *Pauṣa* and *Māgha* i.e., on the first day of the month of *Māgha*. The epoch is 1270 B.C. Hence, this is the lowest possible astronomical date of the battle because Bhīṣma said that *Māgha* was already begun when he died.

Upper limit : Bhīṣma's injunction : Bhīṣma said that it ought to be (*bhavitum arhati*) 3-4th of the white fortnight of *Māgha*, at the solstice. This gives the epoch of 1486—1414 B.C.

Thus, the astronomical upper limit of the date of the battle is 1484 B.C., while the atronomical lower limit is 1270 B.C.; with the inner range of 1424-1414 B.C.[1]

INDIRECT ASTRONOMICAL EVIDENCE

It is unanimously accepted that the *Sūtra* literature followed the Bhārata battle. Hence, if the date of the *Sūtra* literature could be found, then it could be asserted with some confidence that the Bhārata battle was anterior thereto.

The following astronomical observations are known from the *Vedāṅga-sūtra* literature:

Jyotiṣa Vedāṅga was composed in 1270 B.C.[2] This is satis-

[1]S.B. Roy, *AIC*, p. 136.

[2]S.B. Roy, *AI*, pp. 36-39. The date of observation of *Vedāṅga Jyotiṣa* is discussed at length and the *contra* opinion of Maxmüller, Whitney and Neugebauer are countered; *Ibid.*, pp. 56-62.

factorily dated and the margin of error is only one *tithi i.e.*±72 years.

Āśvalāyana observed a polestar K-Draconis,[1] and mentioned it in his *Grihya Sūtra* in the marriage ritual. Colebrooke has shown that this phenomenon occurred in 1326 B.C.[2] It has been shown from the 'teachers' lists that Āśvalayana was born in *c.* 1388 B.C.[3] Hence, it can be safely taken that Āśvalayana's *sūtras* were composed in *c.* 1300 B.C. at the latest.

Baudhāyana is an important name in *Sūtra* chronology, because he is known to be the earliest among the *sūtrakāras.* There are two observations which help in determining his date. Firstly, he determined the year beginning at the new moon at the star *Apa-Bharaṇis.*[4] This gives the date of *c.* 1376 B.C. Secondly, he states that the winter solstice takes place at the star B-Delphinis.[5] This places his date *c.* 1333 B.C.

Thus, from the atronomical observations, one knows that Baudhāyana and Āśvalāyana lived and worked before 1300 B.C. and Lagadha worked in *c.* 1270 B.C. In other words, the composition of the *sūtra* literature belongs to the period 1400-1200 B.C. and not to 600-200 B.C. as Max Müller believed on the sole evidence of a ghost story in the *Kathāsaritasāgara* of Somadeva Bhatta composed in *c.* 1200 A.D.[6]

Having shown that the *Vedāṅga* literature belongs to the epoch 1400-1200 B.C. it could be asserted with some confidence that Mahābhārata battle took place earlier i.e., before 1400 B.C.

OTHER MATERIALS

A. Purāṇas

Purāṇas observe that between the birth of Parīkṣit and the coronation of Nanda, a period of 1015 years (some MSS give 1050 years) had elapsed. Similarly, the Purāṇas uniformly say

[1] *Āśvalāyana Grihya Sūtra* 1-7-22.

[2] H.T. Colebrooke, 'On the Indian and Arabian Divisions of the Zodiac' *JRAS*, IX, pp. 323, 329.

[3] S.B. Roy, *AIC*, pp. 7, 63.

[4] *Baudhayana Śrauta Sūtra*, (BSS) XVIII-II.

[5] *Ibid.*, XXVI, 29; see also Gorakh Prasad, *JRAS*, 1936, p. 417.

[6] Goldstucker, *Paṇini* p. 91; See also *AI*, p. 30.

that ten *nakṣatras* had elapsed (at 100 years per *nakṣatra*) between Parīkṣit and Nanda. It is thus clear that according to the Purāṇas there was a gap of about 1000 years between Parīkṣit and Nanda.

Basing on these observations, Cunningham first held that Yudhisthira lived in the second half of the fifteenth century.[12] Colebrooke also computed on the basis of the observations of Parasara that they were made in *c.* 1400 B.C.[13] K.P. Jayaswal made a detailed study of the Puraṇas and concluded that there were ten missing names in the Purāṇas whose reign-periods were included in those of others. Jayaswal computed the date of the Bhārata battle at 1424 B.C. on the basis of the Purāṇas.[14]

Pargiter arrived at the date 950 B.C. because, *he took the average of incomplete dynasties and took the minimum differential viz., 18 years per king. He thus arrived at the lowest possible figure and declared it to be the final date. It is not clear why he ignored the Magadha list which, according to him, was the most complete list. The strongest objection against Pargiter is that he did neither give the upper limit nor the margin of error in his estimate. Statistically, this is a fatal defect.* A full discussion of the theory of compound probability which is required to find the dates statistically from incomplete lists, is dealt elsewhere.[15]

B. Inscription

The earliest inscription known (which has any relevance on the subject) is the Hisse-Borala inscription of Vākātaka Devasena (vide *infra*). Roy has discussed it at length and according to him only two dates are possible according to this inscription, either 1280 B.C. or 1414 B.C. For reasons given in his book (viz., *AIC*) Roy prefers 1414 B.C. as the epoch of Yudhishthira era.

[12] A. Cunningham, *Archeological Survey Reports*, Vol. I.

[13] Colebrooke, *Sacred Writings of the Hindus*, p. 67; See also *JRAS*, vol. VIII, pp. 369-476.

[14] K.P. Jayasaval, 'On the Chronology of the Brihadrathas', *JBORS*, I, p. 109.

[15] S.B. Roy, 'On the Chronology of the Infrastucture of Indian Proto-history (3100 B.C.-600 B.C.)', *JBORS*, LVIII, pp. 44-78. For an extensive discussion on the theory of compound probability which is required to determine the age from the dynastic lists with the computation of the lower and the upper bounds see pp. 44-56. For a full discussion of the dynasties of Kali age see S.B. Roy, *AIC*, pp. 105-126.

To sum up: the date of the battle can be expressed as [1088, 1270 (1414-1424) 1480] B.C.
where, (1) 1088-1480 denote the lower and the upper bounds.
(2) 1270 is a possible date, and
(1414-1424) B.C. represents the inner range, *i.e.*, the most probable interval.

Appendix I

APPROXIMATE BATTLE CALENDAR

From the date given above, an approximate battle calendar can be prepared. In preparing the following table, the year 1966 A.D. has been chosen as the parallel year (the years seen parallel to a first approximation with respect to the sun, the moon and the *nakṣatras* after a cycle of 3, 8, 11, 19 years with proper intercalation.

These data were chosen from the *Viśuddha Siddhānta Pañjikā*, which is observational calendar because it merely transcribes the Nautical Almanac of the Greenwhich observatory. The positions were actually verified by naked eye observations made in the autumn to spring months of the years 1966.

The dates given are in a form which can be easily followed by a lay reader : The mathematician who wants to verify may kindly note that :

(1) The '*nakṣatra*' means the bright star as given in the Table in the essay "Chronological Infrastructure of Indian Protohistory" (see fn. 15).

(2) The longitudes only are given taking the base year to be 1970 A.D. The '*Ayanāṁśa*' is taken at 23° 11′ for conversion purpose.

(3) Months are taken as *Pūrnimanta*. (Unless the *Pūrnimanta* months are taken, Bhīṣma's death would not fall in *Māgha* but in *Pauṣa*. The *Āmanta* system was introduced later in *Vedāṅga Jyotiṣa*).

(4) The English dates are given according to the Gregorian Calendar of 1966, and finally,

(5) It is only an approximate parallel, given only to show that the Mahābhārata data are plausible according to observation : Please note carefully that *it does not describe the position as in 1424 B.C.* but is only a rough parallel.

AN APPROXIMATELY PARALLEL YEAR 1966 A.D.

Sl. No.	Day	Solar month Indian	Lunar month	Sun at sunrise	Moon	*Tithi*	Day of the battle	Event
1	2	3	4	5	6	7	8	9
1.					*Revati*			*Kṛṣṇa proceeds for peace talks.*
2.					*Pūrva Falguni*	*Aṣtami*		*Kṛṣṇa talks to Karṇa to win him over.*
3.					near *Jyeṣṭha*	*Amāvāsya*		*War preparations begin.*
4.	28.11.66	12th *Agrahāyna*	*Kārtika (Anumati Pūrnimā)*	Near *Jyeṣṭha* 7/12/11	*Rohiṇi*	*Kārtiki Pūrnima (Anumati)*	*Night before the battle*	*Vyasa talks to Dhritaraṣtra on the night before the battle.*
5.	29.11.66	13th *Agrahāyna*	*Mārga-ṣīrṣa Kṛṣṇa*	7/13/11	*Mrigaśiras*	*Pratipāda Kṛṣṇa*	1st Day	*Gītā delivered.*
6.	8.12.66	22nd	*Mārga-ṣīrṣa Kṛṣṇa 11*	7/22/11			*10th Day Kṛṣṇa*	*Bhīṣma falls, Migratory birds appear.*

1	2	3	4	5	6	7	8	9
7.	12.12.66	26th	*Mārga-śīrṣa Kṛṣṇa 15*	7/26/23			*14th Day Kṛṣṇa*	*Night battle ; Ghatotkaca falls.*
8.	16.12.66	30th *Agrahāyna*	*Mārga-śīrṣa Śukla 4th*	8/10/27		*Śravaṇa*	*18th Day (Kṛṣṇa)*	*Mace battle : Bularama returns. Duryodhana falls.*
9.	2.2.67	19th *Māgha*	*Māgha Kṛṣṇa 8th (EKASTAKA)*	9/20/20 =314°		*Ekastaka*		*Winter solstice—observed by Bhīṣma's observers.*
10.	3.2.67	20th *Māgha*	*Māgha Kṛṣṇa 9th*	3/21/21 =315°		*Māgha Kṛṣṇa*	69th Day	*Bīṣhma dies, Uttarāyana in the morning.*

Note : As the sun is taken at 242° on the initial day, the solstice is at 314° giving the epoch at 1198 B.C.

If the sun is taken at 249° (*i.e. Jyeṣta* itself) on the initial day, the solstice is at 318° giving the epoch at 1486 B.C. Thus, the astronomical date is [1486—1198] or 1342±144 B.C.; *all calculations being approximate.*

The above calculation is approximate and based on the position of the sun and the moon in the Gregorian year 1966. *This only shows the order of the epoch—correct to two or three tithis i.e., to about 200 years. It shows only that astronomically the date of the battle was about 1270—1500 B.C. even at the grossest approximation.*

The difficulty arises because it was not a standard year. According to Pitāmaha Bhīṣma, in a standard year the solstice should have taken place in 3/4 of white *Māgha* (*Śukla*). This gives the range of (1414—1486) B.C. which is more exact and hence adopted in *AI.*, pp. 39.

For the readers who do not know how to observe the solstice, the following table would be of some interest :

Winter solstice *tithis* in *c.* 1400 B.C.

a. *For Pūrnimanta Lunar months* :

13/14 *Śukla Māgha*

2/3 *Śukla Māgha* (Taking this as the basic year).

8/9 *Kṛṣṇa Māgha*

For Amānta Lunar months :

13/14 *Śukla Māgha*

2/3 *Śukla Māgha* (Taking this as the base year)

8/9 *Kṛṣṇa Pauṣa*

[This is the observer's scheme : Theoretically, many other permutations and combinations could be worked out]

Appendix II

INSCRIPTIONAL MATERIAL

Aihoḷe inscription :

There are only two inscriptions which are of importance in regard to the date of the Bhārata battle. One is the inscription of Pulikesi from Aihoḷe and the second is of Vākāṭaka Davasena of Hisse-Borala (original Vatsagulma) dated '380 after Śaka' considered above.

The first inscription—from Ahioḷe[16]—is dated 506 of the Śaka era *i.e.,* 584 A.D. It specifically states that the Bhārata battle took place in 3101 B.C The orthodox school of the

[16] James Fleet, 'Sanskrit and old Canarese inscriptions', *Indian Antiquary*, VIII, pp. 237-45.

Indologists cite this in support of a date of 3101 B.C. for the battle.

The main weakness of the argument of this school is that the inscription was recorded more than 3699 years after the event and there is no earlier inscription to support it. The second and the more important argument is that it was recorded *after* Āryabhaṭa, and obviously followed the Āryabhaṭa tradition, because before Āryabhaṭa there is no record anywhere that the battle was fought in 3100 B.C. For the real meaning and significance of the epoch of 3103 B.C., please see fn. 17.

If any inscription or dated material is found earlier to 499 A.D. (the date of Āryabhaṭa) to that effect, then the evidence of this inscription would indeed be very great but in the absence thereof, the inscription stands unconfirmed. The only earlier inscription known that refers to the Bhārata battle era, is the Hisse-Borala inscription which flatly contradicts the Aihoḷe inscription. Further, there is no evidence that a count of years was maintained since 3100 B.C., and thus it is difficult to feel convinced about the evidentiary value of the Aihoḷe inscription. On the other hand, the Purānas mention that a count of centuries was kept in the form of the '*nakṣatra yuga*' scheme of Briddha Garga, and the Hisse-Borala inscription refers directly, to this era of the *nakṣatra yuga* which mentions Nanda, Yudhiṣthira, Pratipa and the end of Andhras among others, and it being known that Briddha Garga lived in *c* 2200 B.C.,[17] the evidentiary value of Dr. Sobhana Gokhale's find of the Hisse-Borala inscription is very great indeed. To this we now turn.

Hisse-Borala inscription :[18]

Pargiter did not rely upon any inscription for his dating. Recently Dr. Sobhana Gokhale has discovered an inscription of Vākāṭaka Devasena dated 380 of the Śaka year. This crucial inscription was found at Hisse-Borala (original Vatsagulma). On its basis, Roy has snown that only two dates are possible for the Bhārata battle viz.,

1. 1280 B.C., taking the initial Śaka epoch to be 78 A.D.

[17]S.B. Roy, *AI*, pp. 137-151.

[18]Dr. Shobhana Gokhale, *Ep. Ind.*, vol. XXXVII, part 1 (1967), p. 1. For a full discussion by Roy, see *AI*, pp. 131-136.

2. 1414 B.C., taking the initial Śaka epoch to be 57 B.C. with Vikramaditya as the Śakāri.

Further, the inscription is interpreted to its datum as the *Nakṣatra Uttara Bhādrapada*, and on its basis, Roy works out the following dates in the *Nakṣatra yuga* system :

Event	Sometime in I	Sometime in II
Birth of Parīkṣit	1280 B.C.	1414 B.C.
Nanda's reign (P. *Assāda*)	243-143 B.C.	377-277 B.C.
End of the Andhras	358-458 A.D.	224-324 A.D.
Data of Hisse-Borala inscription	458 A.D.	324 A.D.

Prefering the second series, Roy adopts 1414 B.C. as the date of the Bhārata battle, particularly because they tally with 1486-1414 B.C. The only other possible date is 1280 B.C.

Before discarding the lower of the two dates viz., the date of 1280 B.C., and adopting a still lower date, *one must give concrete positive material*, and, *no estimate however plausible would now be enough.* ONE MUST GIVE POSITIVE EVIDENCE BEFORE DISCARDING THE CONCRETE EVIDENCE OF THE HISSE-BORALA INSCRIPTION.

(3) Finally, it may be pointed out to the objectively intersted readers that the proposed date of *c.* 1400 B.C. is neither *ad hoc* nor isolated. It is only a minor part of an extensive chronological infrastructive based on the concordence of astronomy, *Ṛgveda*, Purāṇas, and the original Gāthas of Zarathustra[19] : further, that the plausibility of the infrastructure has been proved by extensive cross-contacts with West Asian cuneiform inscriptions of the period (2005—1970), B.C.[20]

[19] S.B. Roy, 'Chronological Infrastructure' (vide note 15); *JBORS*, LVIII, pp. 44-78.

[20] 'Vedic Chronology', *Journal of the Andhra Historical Reserch Society*, XXXIII, pp. 75-81. For a popular version, see S.B. ROY, 'Lost Civilisation', *Sunday Standard*, Nov. 30, 1975.

K.C. Varma

A recent pronouncement by three scholars that the Bhārata war was either a myth or a trivial family affair[1] has attracted notice all over the country and perhaps even abroad[2]. None of them has cited any new evidence in support of their assertion that it was a myth or that it took place in the 9th century B.C. It seems that they are still under the glamour of hypersceptical attitude so prevalent in Europe till at least the middle of the 19th century, well examplified by the assertions of George Grote[3] :—

> "Of such events the genuine Trojan war of the old epic was for the most part composed. Though literally believed, reverentially cherished, and numbered among the gigantic phenomena of the past, by the Greecian public, it is in the eyes of modern inquiry essentially a legend and nothing more. If we are asked whether it be not a legend embodying portions of historical matter, and raised upon a basis of truth, whether there may not have really occurred at the foot of the hill of Ilium, a war purely human and political, without gods, without heroes, without Helen, without Amazons, without Ethiopians under the beautiful son of Eos, without the wooden horse, without the characteristic and expressive features of of the old epical war—like the mutilated trunk of Deiphobus in the underworld; if we are asked whether there was not really some such historical Trojan war as this, our answer must be that as the possibility of it cannot be denied, so neither can the reality of it be affirmed."

Again,[4] "The utmost which we accomplish by means of the semi-historical theory even in its most successful applications, is,

[1]Drs. D.C. Sircar, H D Sankalia and Sri B.B. Lal in press interviews published in papers like the *Hindustan Times, The Statesman, The Times of India, The Indian Express, The Hindu*, etc., between Sep.—Dec. 1975. The latter two also gave lectures and read papers at the Indian Archaeological Congress, Chandigarh, 22nd-24th Dec. 1976.

[2]I am advised that foreign papers have noted it with glee.

[3]*History of Greece*, (Everyman's Lib. ed.), Vol. I, p. 277. Grote's *History* was published first in 1946.

[4]*Ibid.*, Vol. II, pp. 74-75. The scepticism regarding the historicity of the Trojan war started in 1649, and it began to die out after 1870; (West-

that after leaving out from the mythical narravtive all that is miraculous or high-coloured or extravagant we arrive at a series of credible incidents—incidents which *may, perhaps,* have really occured, and against which no intrinsic presumption can be raised......To raise plausible fiction up to the superior dignity of truth, some positive testimony or positive ground of inference must be shown; even the highest measure of intrinsic probability is not alone sufficient. A man who tells us that on the day of the battle of Plataea, rain fell on the spot of ground where the city of New York now stands, will neither deserve nor obtain credit, because he can have had no means of positive knowledge; though the statement is not in the slightest degree improbable. On the other hand, statements in themselves very improbable may well deserve belief, provided they be supported by sufficient positive evidence. Thus the canal dug by order of Xerxes across the promontory of Mount Athis, and the sailing of the Persian fleet through it, is a fact which I believe, because it is well attested—not withstanding its remarkable improbability, which so far misleads Juvenal as to induce him to single out the narrative as a glaring example of Greecian mendacity."

II. Greece had the luck that it attracted the German Merchant-Prince Schliemann, who made three fortunes, then wound up his business and devoted himself to the rehabilitation of

had all been nurtured in this atmosphere of sceptisism and, naturally they applied it to Indian traditions also.) Fran,cois Hédelin abbé d'Aubignac (1634-76 AD) who had quarelled with the Classical scholars who dominated the French Academy, and was blackballed by them, opened his own 'Academie de M.L. 'abbé d' Aubignac'. In 1664, he delivered before this Academy his *Conjectures academiques ou dissertation sur l' Iliade*, in which he attacked Homeric poems for bad morality, bad style, inconsistencies in the conduct of the narrative, for all of which, combined with the ancient report of Homer's illiteracy, he concluded that there never had been such a person as Homer, and that the *Iliad* and the *Odyssey* were the patchwork creations of a late and incompetent editor. Many other classical scholars, e g., Karl Lachmann (1793-1851), Robert Wood, F.A. Wolf, Gilbert Murray, George Grote, and the most illustrious of them all, U. von Wilamovitz-Moellendorff (1848-1931), joined in the fray and declared the Taojan war a myth. For a comprehensive account of the Homeric controversy, see *Companion to Homer* (edited by A.J.B. Wace and Frank H. Stubbings), 1961, pp. 234-265.

Homer, and succeeded beyond all expectation.[5] The result of his work is best described in the words of J.B. Bury[6] :

"The sceptical attitude towards literary tradition about Homer which prevailed throughout the last century was generally accompanied by scepticism as to the historical traditions about early Greece and the Trojan war, which underlie the epics and had formerly been supposed to be substantially historical. Few accepted the Trojan war as a fact; there was incredulity as to existence of Troy. This scepticism was not principally due the the Homeric controversy; it reflected the opinion of the age. A great deal of the epic story is obviously mythical. The excavations in Greece and Troy, and then in Crete, rendered this attitude untenable." Again, regarding the historicity of the characters mentioned in the Homeric poems, Bury observed "To answer this question, and in general to discover the historical value of the epics, we are helped by a method of comparison. Other peoples as well as the Greeks had their heroic ages with epic poetry which is the reason for naming such ages heroic : for instance the Germans, the Slavs, the Celts. In some cases we have the means of criticising and interpreting the poetical traditions, because some of the historical facts on which the imagination of the singers and story tellers was employed have come down to us in the sober contemporary records of neighbouring peoples who were in a more advanced stage of civiliazation and wrote dry chronicles of events......The most instructive is the heroic age of the Germans, who between the fourth and the fifth centuries were preying upon the Roman empire. Inspite of differences in circumstances, there is much in common between the German society and the Achaean. The principal Teutonic heroes whose deeds are sung by the bards, were real men,

[5]*Companion to Homer*, pp. 325-329. See also *Schliemann's Excavations* (Eng. trs.) Emil Ludwig, *Schliemann of Troy*, (Eng. trs. 1931); also Schliemann's own *Autobiography* (in his *Ilios*, 1880). Tsountas and J.I. Manatt, *The Mycenaean Age*, 1897; J.L. Myres, *Homer and his Critics;* H.L. Lorimer, *Homer and the Monuments*, 1950; A. Lang, *The World of Homer*, (1910)., M.P. Nilson, *Homer and Mycenae* (1933)., Arthur Evans, *Palace of Knnossos*; C.H. and H. Hawes, *Crete : The Forerunner of Greece.*

[6]*CAH* (1925), Vol. II, pp. 510-517.

whose names are mentioned in the true history of the Roman records and chronicles, such as Theoderic, Hermanric, Gunther, Atilla. The poetry of other heroic ages agrees so for as we can control it. It is therefore a probable assumption that the origin of the poetical figures, Agememnon, Menelaus, Helen, Achillies, Priam, and the rest, is to be explained by the simple supposition that they were men of flesh and blood who played their part on the stage of history. We are entitled to believed that if the Agean area had been in as close contact with the Egyptian empire as the Teutonic world was with the Roman empire, some of these names might have occurred in the historical monuments of Egypt. No other supposition carries conviction."

There is now hardly any western Classical Scholar or Archaeologist who doubts the historicity of the Trojan war. Similarly even though there is no archaeological and epigraphic evidence for the events related in the Old Testament, yet all western scholars proclaim that there is a large core of historical truth in it.

III. We in India still await our Schliemann and Arthur Evans. It may, however, be stated that there is little likelihood of archaeology being able to find proof of the historicity of the Bhārata war, since in the Gaṅgā valley, the monumental architecture was of wood, before the advent of Aśoka. To the best of my knowledge the only examples of monumental architecture earlier than the Muslim period, which still exist are some old temples, fortresses, cave temples, *Chaityas*, *Stūpas* and *Vihāras*; but none of them is earlier than the 3rd century B.C. Besides it is very difficult to co-relate an archaeological fact with literary description, in the absence of contemporary inscribed record.[7]

[6]*CAH*, Vol II, (Rev. ed. 1975) pt. II, pp. 307-323, 537-587; and others e.g., W.F. Allrisht.

[7]Inspite of the fact that archaeological discoveries in Greece, Crete, etc., have established the historicity of the Trojan war, and various cities, one succeeding the other, have been identified as Troy, on the hillock known as Hissarlick, the particular city of Troy, which Homer had in mind has not yet been identified, as no contemporary inscription has been found Carl Nylander of the Upsala University has challenged (*Antiquity*, Vol. XXXVII, 1963, pp. 6-11) the identification of Homeric Troy with Troy VII(a). He states that the interest of Homeric scholars was concentrated in Troy VI and VII (a), as being the cities of Homer, and their date in 1300 B.C.,

An intensive search for more than 100 years has not revealed any stone or copper plate inscription earlier than those of Aśoka: it appears that for some reason best known to themselves (perhaps for philosophical reasons), our ancestors, before the advent of the Imperial Mauryas, were content to use perishable materials for their annals and records. Moreover, the two great epics, the *Rāmāyaṇa* and the *Mahābhārata*, in respect of which the critical text has been prepared (analogous to the 'Lower Criticism of the

proved by the pottery known III-B., was near enough to the traditional date for the Trojan war. The claim of Troy VI was considered less strong than that of VII (a) which had been constructed on a much poorer scale than the former; and the supposition was that VII(a) had undergone siege and ruthlessly destroyed by fire and sword. Nylander observed, that the date of the alleged end of Troy VII (a) between 1250-1200 B.C., which also is the period when Mycenaean pottery III-B came to an end, was based on the interpretation of Mycenaean sherds in the destruction layers identified with reference to *The Mycenaean Pottery-Analysis and Classification; the Chronology of Mycenaean Pottery*, 1941, by Prof. Furumark. According to this scholar there were no sherds of Mycenaean III-A in Troy VII(a); most of the sherds belonged to III-B and to III-C; and thus the destruction took place at the beginning of III-C. Prof. Denis Page, (*Antiquity*, 1959, pp. 25ff.) has pointed out that Troy VII(a) was a poor village Also the conditions at the time of destruction of Troy VII(a) show that Greece was already apprehensive of invasion; this being proved by the construction of fortresses,etc., the destruction of palaces and desertion of many settlements. It is extremely difficult to identify Troy VII(a) with the Homeric fortress.Thus if VII(a) was not destroyed by the Mycenaean Greeks and if this was not the Homeric Troy, which one was it and who destroyed it. Nylander states that it was destroyed by the northern people, who were driven out of their homes—the so-called Illyrian migration—since there is archaeological evidence of wide the spread destruction from Italy to Iran. The result of this was the downfall of Mycenaean Greece and collapse of the Hittites, and the burning of many sites in Asia Minor and Cyprus. Further to the south, the so called 'Peoples of the Sea' sacked cities like Tarsus, Hazor, Alalakh, and others. The first wave of these peoples was checked by the Egyptian Pharaoh Merenpthah, in a great battle on the banks of the Nile, in 1225 B C. According t oNylander, these events provide a more appropriate ground for the destruction of Troy VIII(a) than any alleged Greek attack in a period of Mycenaean misery and weakness. On the analogy of Charlemagne's battle against the B-asques, in 778 A D , (as related in *Ponceiaux*) in which a large part of his army and baggage was lost, but was converted into a splendid victory and revenge in *Chanson De Roland*, composed 300 years or more later Nylander opines that perhaps the Greeks never conquered Troy. In conclusion he identifies the Homeric city with Troy VI.

Bible') have still to be subjected to 'higher criticism' and when this task has been carried to the stage to which 300 years study of the *Old* and *New Testaments* has led, then alone it would be possible to say which verses were first composed and when. As it is, both the *epics* are a growth. We have, therefore, to depend upon literary sources only to show whether the Bhārata war was a historical fact or not. Fortunately, the task is not so hopeless as may appear at first sight, since Dr. Sircar has stated that if the war had been historical, it should have found mention in the Vedic literature, thus implying that the evidence of Vedic literature is as good as any epigraphic or archaeological evidence, and also that the war was fought in the Vedic period! He is a firm believer in Max Müller's date for the arrival of the Aryans in India in 1500 B.C. and the date of the hymns of the Veda to be 1500-1200 B.C. or so. It is to be regretted that such scholars, who are otherwise very critically minded, have accepted as proved fact the haltingly propounded chronology of the Vedic literature formulated by Max Müller, and for which no scholar has so for furnished any direct or indirect proof.[8] It would not be out of place to invite the attention of scholars to some of the admissions of Max Müller, which have been either forgotten or deliberately ignored. When his chronology was severely criticized by Barthelemey St. Hillaire, H.H. Wilson and D.W. Whitney[9], Max Müller wrote :[10]

"I need hardly say that I agree with almost every word of my critics. I have repeatedly dwelt on the entirely hypothetical character of the dates which I ventured to assign to the first three periods of Vedic literature. All I have claimed for them has been that they are minimum dates."

and again :[11]

"If how we ask now we can fix the date of these three periods, it is quite clear that we cannot fix a *terminum a quo*. Whether the Vedic hymns were composed 1000 or 1500 or 2000 or

[8]None to my knowledge. This problem is also referred to in more detail later.

[9]Max Müller, *Hist. of Anc. Sanskrit Lit.*, 1859, p. 295 was attacked by H.H. Wilson, *Edinburgh Review*, 1860, p. 375; also Whitney, *Oriental and Linguistic Studies*, 1872, p. 78.

[10]Max Müller, Preface to the text of *Ṛgveda*, p. xiii.

[11]*Coll. Works*, Vol. 2, p. 91.

3000 years B.C. no power on earth will ever determine."

It is rather remarkable that even the Indian supporters of the 1500-1200 B.C. date, carefully avoid any reference to both these admissions of Max Müller.

IV. All attempts to date the Vedic literature on linguistic grounds have failed miserably, for the simple reason that (a) the conclusions of comparative philology are often speculative and (b) no one has yet succeeded in showing how much change should take place in a language in a given interval. The only safe method is astronomical. Scholars like Lokmānaya Tilak[12] and Hermann Jacobi and many others have demonstrated beyond all doubt that the Vedic Literature goes back to 4000 B.C.

[12]Lok. Tilak, *Orion*, 1893 ; *Gitārahasya* (Eng. Trs. by Sukthankar), 3rd ed. 1971, pp. 772 76 and Hindi Trs., 1950, pp. 551-55. H. Jacobi, *Ind. Antiquary*, XXIII, 1894, pp. 154-59; *JRAS*, 1909, pp. 721-726 and *Ibid.*, 1910, 456 ff. established that the Vedic period commences in 4500 B.C., and that bulk of the hymns of the *Ṛgveda* were composed between 3500-2500 B C. (when vernal equinox was in the Orion (4500-3500 B.C.) and later receded (3500-2500 B.C.) to *Rohinī*; the *Kṛttikā period*, during which the existing Brāhmaṇas and Upanisadas were composed extended from 2500-1500 B C. and the *Sūtras* were composed between 2500-800 B.C. They have been supported on independent grounds by P C. Sengupta, *Anc Ind. Chronology*, 1947, pp. 60-155 (he has also shown on pp. 101 ff., that the solar eclipse in *Ṛgveda*, V. 40, 5-9 took place on July 26, 3928 B.C. and the beginnings of the Brāhmana lit. is to be traced back to 3500 B C. B.V. Kameshwara Aiyar, (*Jour of the Mythic Soc.*, Vol. XII, 1921-22, pp. 171-193, 223-249, 357-366) examined all the passages in the Brāhmaṇas dealing with (a) *nakṣatras* and (b) year beginnings and *ṛtus* (seasons), and after showing where G Thibaut (*Ind. Ant.*, XXIV, 1895, pp. 85-100—where he tried to combat Tilak/Jacobi) had gone wrong and showed that both lines of enquiry give 2500 B.C. as the date of beginning of the Brāhmaṇa lit. Gorakh Prasad, (*Jour. of Bihar and Orissa Res. Soc.* XXI, 1935, pp. 120-136) examined the objections of Macdonell, Keith and Winternitz and against Tilak/Jacobi, and showed their total inadequacy. N N. Law (*Age of the Ṛgveda* (1965), pp. 1-160) examined the arguments of Whitney and G. Thibaut, against Tilak (*Ind. Ant.*, Vol. XXIV, 1895, pp. 361-369 and 85-100) and proved that the four conditions imposed by Whitney (*Ind. Ant.*, XXIV, p. 369) have been more than fulfilled by Tilak and that Thibaut landed himself in absurd contradictions. Mary Agnes Clerk (*Enc. Brit.* XIth ed., Vol. XXVIII, pp. 995-6, Art. Zodiac) acknowledged that the *Kṛttika* passage could not have been composed later than 1800 B C. and it harks back to 2300 B C. Actually there is ample evidence (*Ṛgveda*, I. 103.4, I. 124.2, II. 2.2, V. 52.4, VIII. 46 22, IX. 12.7, III. 12.2) that the vernal equinox was in *Rohiṇī nakṣatra*. e.g. *Ṛgveda* I. 144.4 :—

and the Brāhmaṇa-Upaniṣad period ends about a hundred or more years before the Bhārata war, i.e., end of the *Kṛttikā period.* No one, to the best of my knowledge, has so far been

यमींद्रा सवयसा सपर्यत: समाने योनामिथुना समाकसा ।
दिवा न नक्तं पलितो युवाजनिपुरू चरन्नजरो मानुपा युगा: ॥

See also *Atharva Veda* XIII. 1.55, XIII. 3.7, which states that *Rohiṇī* was made *Prajāpati* (initial point) for all time. See also *Ṛgveda* X. 85, 13 and 18 ; *Taitt. Brāhmaṇa*, I.1 ; and III. 10. 1 ; *Kauśitakī Brāhmaṇa*, XIX. 3 ; *Śatapatha Brāhmaṇa*, XI. 1.1, VI. 2.2, II. 1.3. The *Kṛttikā* passage in the *Śatapatha Brāhmaṇa*, II. 1.2 runs :—

एता हवै प्राच्यै दिशो नच्यवन्ते सर्वाणि हवा अन्यानि नक्षत्राणि ।
प्राच्यै दिगश्चयवन्ते तत्प्राच्यामेवास्यै तद्दिश्याहितो
भवतस्तस्मात् कृत्तिकास्वाधीत ॥

Again *Ṛgveda*, X. 61.7, I. 164.33, X. 61.5-6 and *Athrava Veda*, XIII. 1.12, XIII. 3.8, (cited by T. Bhattacharya, *Jour. of Gangānāth Jhā Res. Inst.*, Vol VIII, re: vernal equinox in *Rohiṇī* (3500-3000 B.C.). This chronology of the Vedic literature finds great support from the data given in the Purāṇas supplemented by historical notices of kings etc., mentioned in Vedic literature—see in this connection, K.P. Jayaswal, *JBORS.* Vol I, 1915, pp 69-116 (Śaiśunāga and Maurya Chro.), Vol. III, 1917, pp. 232-249; G.S. Basu, *Purāṇapraveśa* (Bangla), and its review in English, in *Saṁkhyā* Vol. III, pt. 2 (he has established remarkable corresponderce between the *yuga* system of reckonning and the biological determination of generation interval with the king—lists in the Purāṇas and showed where Vincent Smith, Pargiter and others have gone wrong in assuming arbitrary regnal figures for average reigns, etc.). His findings have been confirmed by Basham, *Studies in Ind. Hist.*, 1963, pp. 80-88, where on epigraphic evidence of known dated dynasties he establishes the generation interval to be 30 years. The argument that Indo-European unity lasted till 2000 B.C., which used to be urged by some scholars for not dating the Vedic literature earlier than 1500 B C. is no longer valid, since J. Mellaart, *Camb. Anc. Hist.* (rev. ed. 1971), Vol. I, pt. 2, pp. 406-7, has equated the extensive destruction in Anatolia in the 29th century B.C. to the advent of Luwian speaking Indo-Europeans ; Sir Leonard Woolley (*A Forgotten Kingdom*, (Penguin), pp. 31-37) has shown that the ancestors of the Indo-European Hittite rulers, moved from southern Caucasus in the period 4000-3500 B C. ; Homer L. Thomas (*Chronologies in World Archaeology*, 1965, pp. 391-92) ; J.L. Casky (*Hesperia*, Vol. XXXIX, 1960, 285-303) Weinberg, (*Chro. In Old World Arch.*) state that the Greek speeking Indo-Europeans reached Central Greece in 2300-2200 B.C. ; A.J. Beattie (*Companion to Homer*, p. 311) observers :—"Greek began as a dialect of the Indo-European parent language, probably in east central Europe and probably in the third millennium B.C. Brandenstein (*Die erste Indogermanische Wanderung*, Wien, 1936 (cited by B.K. Ghosh, in *The*

able to refute the arguments advanced by these scholars. Thus there is no valid argument against pushing back the date of the Vedic literature beyond 1500 B.C. It will also be clear that the Bhārata war took place late in the 15th century B.C., as will be demonstrated in this paper, and since the first three strata of Vedic literature had been completed, before 1500 B.C., the war could not have been mentioned in it. However, some ancestors of the Kauravas/Pāṇḍavas (K/P) are mentioned in the Vedic literature :—

(a) Dhrtarāṣtra, son of Vichitravīrya, and father of Duryodhana, is mentioned as a king of Kuru-Pāñcāla region in the *Kathaka Saṁhitā*, X. 6.

(b) *Matsya Purāṇa*, (50.39.41) mentions Devapi (elder brother of Śāntanu, father of Bhīṣma) who sacrificed for his brother, is mentioned in *Ṛgveda*, X.98.5.

(c) *Śatapatha Bṛāhmaṇa* (XIII. 5.3.5) confirms the statement of *Vāyū Purāna* (99.198) that Bharata, an ancestor of the K/P, was the son of Sakuntalā and Dushyanta (or Dushmanta).

(d) *Aitarēya Bṛāhmaṇa* (VIII.21, IV.27., V.34. VII.27.) *Śāṅkhyāyana Śrauta Sūtra* (XVI. 8.27.), *Ṛgveda* (VII.18.12.) mention Parīkṣit I and his son Janmejaya II (Janmejaya I was a very remote ancestor of the Mahābhārata heroes, about 90 generations before the Bhārata war). The traditions associated with these two are totally different

Vedic Age (Bharatiya Vidya Bhavan, Vol I, pp. 215 ff) has demonstrated on the basis of linguistic semasiology, that the Indo-Iranians were the first to break away from the parent Indo-Europeans, as the Indo-Iranian reveals an older stage of semasiological evolution than all the other dialects of the parent language put together, and also that the speakers of these other dialects continued to live together long after the departure of the Indo-Iranians. Thus the latter must have separated before 4000 B.C. Recently Gurdip Singh (The Indus Valley Culture' in *Archaeology and Physical Anthropology in Oceania*, Vol. VI, No. 2, July 1971, pp. 177-189, abstract published in *Purātattva*, No. IV, 1970-71, pp. 68-76), has shown that N.W. India (including Rajasthan, parts of Haryāṇā, and West U.P.) became arid (C-14 date 1800 B C., which becomes 2100 B C., when MASCA correction is applied). Thus it is reasonable to hold that Sarasvati, river *par excellence* of the *Rgveda*, dried up in the period 2100-2000 B C., and hence many Vedic works which praise the splendour of that river must ante date this period

from those about Parīkṣit II and Janmejaya III, grandson and great-grandson respectively of Arjuna.

(e) Pururavas/Urvaśī, from whom the Lunar Dynasty begins, have been proved to be historical (see R.C. Gaur, *Jour. of the Royal Asiatic Soc.*, 1974, 142-52; also *Ṛgveda* X.95.2-18 and other references cited by Gaur.)

Thus all these predecessors of the K/P, are historical.[13]

V. The historicity of the Bhārata war is also established indirectly by the fact that by the time of Pāṇini, whose date cannot be pushed below 800 B.C. Kṛṣna and even Arjuna had been deified and the '*Bhārata* and the *Mahābhārata*' are mentioned in the *Āśvalāyana Gṛhya Sūtra*, III.4[14] :—

अथ ऋष्य: शतर्चिनो माध्यमा गृत्समदो विश्वामित्रो वामदेवोऽत्रिर्भरद्वाजोवसिष्ठ: प्रगाथा: पावमान्य: क्षुद्रसूक्ता महासूक्ता इति । प्राचीनावीती सुमंतुजैमिनि वैशंपायन पैलसूत्रभाष्य भारतमहाभारतधर्माचार्या: ॥

The date of this *Sūtra* cannot be later than the 5th century B.C. Actually its date is determined astronomically from

[13]This disproves Sircar's statement that if the war had been historical it would have been mentioned in the Vedic literature. See also Dr. Jagannath Agarwal, *Haryāṇā Samvāda*, Dec. 1, 1971 and Dr. Ram Gopal, *Ibid.*, No. IX, Year 4, May 1, 1972, where they have rebutted the arguments of Thaddani, Lachmidhar, Buddha Prakash, Oldenberg, B.C. Majumdar, Macdonell, etc.

[14]*Aṣṭādhyāi*, IV. 3.98 :—

वासुदेवार्जुनाभ्यां वुन्/

The *mangla* śloka of the *Mahābhārata* :—

नारायणं नमस्कृत्य नरं चैव नरोत्तमम् ।
देवीं सरस्वतीं चैव ततो जयम् उदीरयेत् ॥

—*Adiparva*

belongs to the same period as Pāṇini ; it also shows that Kṛshṇa was an object of worship. Pāṇini, VI. 2.38 is also relevant. The passage in the *Aśvalāyana Gṛhya Sūtra* runs as above, and is cited from page 15 (*a*), Pothi form, printed by Nirnayasāgara Press ; p. 164, *Bibliothica Indica*, ed. ; p. 29, Stenzler's ed. and Bombay ed., 1909, p. 127—all cited by N.B. Utgikar, 'Mention of the *Mahābhārata* in the *Aśvalāyana Gṛhya Sūtra*, *Proc. of First All Ind. Ort. Conf.*, Poona, 1919, pp. 46-61. Bhārata War mentioned in *Sānkh. Sr. Sutra*, XV, 10-16 (Trs. by W. Caland, p. 438, published by *Ind. Academy of Culture*, Nagpur, 1953).

1.7, 22, "ध्रुवं पश्य". The lowest date comes out to be 1060 B.C.[15] as shown below :—

Name of the Polestar	*Magnitude*	*Distance from the Celestial pole during the period 4700 B.C. and 2100 A.D.*	*Date*
i Draconis	3.0	4° 38′	4,700 B.C.
a Draconis	3.3	0° 6′	2,800 B.C.
k Draconis	3.3	4° 44′	1,290 B.C.
b Ursa Majoris	2.0	6° 28′	1,060 B.C.
a Ursa Majoris	2.0	0° 28′	2,100 A.D.

No other visible star reached or will reach nearer the celestial pole during the period 4700 B.C.—2100 A.D. Roy has, however, given reasons to show that the pole star to which Asvalāyana refers is b Ursa Majoris 1290 B.C. Colebrooke (*Asiatic Res.*, IX, 329,) dated it at least to 1326 B.C.

It is thus evident that by 11th century B.C. at least i.e., at the most about 300 years after the Bhārata war, there was a firm tradition that such an event took place.[16]. The dates

[15]First noticed by Jacobi, '*On the Date of the Ṛgveda*' (Eng. trs.) *Indian Antiquary*, Vol. XXIII, 1894, pp. 154-59 ;—"Hitherto we have spoken of only one result of the precession of the equinoxes, namely the alteration of the colours. Another result is that, along with the gradual alteration of the celestial equator its north and south pole continued to move in a circle of 23½ semi-diameter in a period of about 26,000 years, round the fixed poles of the ecliptic. In this way one star after another draws near the north pole and become the north or Pole star. We shall distinguish these two names, which are now synonymous, by calling the bright star which at any time stands nearest the pole, the north star ; the star whose distance from the pole is so slight, that for all practical purposes it may be called fixed (*Dhruva*), we shall call the pole star."... Then Jacobi gives the above polar distances and dates, and shows that in the Vedic period either "*i*" Draconis or "*a*" Draconis alone could aspire to this title, and he opts for "*a*" Draconis, i.e., 2800 B.C. See also S.B. Roy, *Ancient India*, 1974, p. 62.

[16]Compare the tradition about the historicity of Jesus Christ ; the oldest manuscripts of the Bible are the *Codex Vaticanus* and the *Codex*

assigned to the Sūtra literature by Lokmanya Tilak also confirmed by statements in the sutra literature.[17] The date for the *Baudhāyana* and *Aśvalayana Sūtras* is 1400-1200 B.C. (astronomically calculated). There is thus overwhelming[18] literary evidence of unimpeachable character that the Bhārata war was an actual occurence, even though many later hands have interpolated obviously mythical details in the epic (as has been the fate of the *Ilaid*, the *German Sagas* and other epic poetry). The later interpolaters have inserted details of palaces, etc., that may have existed in their own times. *Ślokas* were inserted and dropped right upto 3rd century A.D.—though Dion Chrysostom mid 1st century A.D.—has stated that the Indians prossess an *Iliad* of 100,000 verses.[19] There is no doubt that the bulk of

Siniaticus, both of late 4th century (the references of Jesus in the *Annals* of Tacitus and the *Antiquary of Josephus*, both late of first cent. A.D., have been proved to be later Christian interpolations (Dean Farrar, *Life of Jesus*, Vol. I, p. 63.)

[17]*Baudhāyana Śrauta. Sūtra*, XXVI. 29 :—

उभेकाष्ठे वमियजेत । मायनासे घनिष्ठाभिरुत्तेणेति मानूमानघांश्लेस्य श्रावणस्य दक्षिणेनो पनिवर्तते इत्येति काष्ठेनवत: ।

and XXVII. 5 :—

तद् (=त=, देवयज्ञे) एवां प्राचीनवंशां शालांमापयति; कृत्तिका: खल्विमा: प्राचीं दिशं न परिजहति । तासां संदर्शनेन मापयोदित्येतदेकम् । श्रोण संदर्शनेन मापयोदित्ये तदेकम् । चित्रास्वात्योरन्तरेणेत्येतद् अपरम् ॥

See for the fomer, Ram Gopal, *Ind. of the Vedic Kalpa-Sutras*, pp. 334-350. He admits *Baudh. Sūtra*, XXVI, 29, gives the date 1200 B.C. As re: *Baudh-Sūtra*, see Gorakh Prasad, *JBORS*, XXI, 1935, pp. 120-36 and *JRAS*, 1936, 417-21. Also S.B. Roy, *Anc. Ind.*, pp. 62, 64.

[18]See the references under footnote 12.

[19]Noticed by Weber, cited by C.V. Vaidya, *Hist. af Sansk. Lit.*, Sec. IV, p. 9. Chrysostom visited India in Ist cent. A.D. (For his life, see *Enc. Brit.*, XIth ed., Vol. VIII, p. 279). The argument that cities are mentioned in the epic, shows that it was composed after the 6th century B.C., i.e., after the "so-called second urbanization" is puerile. Buddhist lit. dated to 550-480 B.C. mentions scores of them (The earliest portion of this lit. was compiled immediately after the *nirvāṇa* of the Buddha in 544 B.C. (There is not an iota of evidence for any date below this year. The evidence of Canton Dotted record has been discredited and the Sinhalese scholars have pointed out that the 218 years as interval

the *Mahābhārata* in its present form, with the exception of later interpolations, is a pre-Mauryan work.)

VI. As regards the date of the Bhārata war, dates have been assigned ranging from 3138 B.C. to 600 B.C. ; but many scholars date it 1450-1400 B.C.[20], and others 1000-836 B.C.

VII. Before attempting to work out the most probable

between *Nirvāṇa* and Buddha is not correct ; and that Bimbisāra was not the founder of the Dynasty (ack. by Geiger also, *Mahāvaṁso*, 12). The Jaina texts show that Chandragupta Maurya was a contemporary of Sthūlabhadra, Bhadrabāhu, etc. and the interval between Mahāvīra's *Nirvāṇa* and accession of Chandragupta Maurya was 219 years (thus the former is dated 326+219=545 B.C., and Buddha 544 B.C. See Paranavitana, *Uni. of Ceylon Review*, XVIII, 1960, 131-2 ; *Epi. Zeylanica*, V 88 ff ; Mendis, *Comp. Hist. of Ind.*, II, 575-6, 621-22 ; *Uni. of Ceylon Review*, V, p. 39 ff ; E.J. Thomas, B.C. Law, Vol. I, 18-22; *JBORS*, I, 1915, 69-116 ; Fleet, *JRAS*, 1909, pp. 9-10 (re : Canton Record, Hultzsch, *JRAS*, 1913, 517-31), *Paṭṭāvali of Kharatara-gachchha* (*Indian Antiquary*, XI, 246-7), gives 219 yrs. between Mahāvīra's *Nirvāṇa* and Chandragupta Maurya. Rhys Davids, *Camb. Hist. of Ind* , I, 172, states that the 218 yrs. interval between Buddha's *Nirvāṇa* and Aśoka was first mentioned in Pali Chronicles in 4th cent. A.D. ; also see his doubts in *Enc. Brit.*, XI ed., 1910, Vol. IV, p. 737 and *Anc. Coins and Measures of Ceylon*, p. 44; Vincent Smith, *Oxford Hist. of Ind.*, pp. 58, 70. ; H.K. Deb, *PAIOC*, Poona, 1919. For the synchronism of Chandragupta Maurya, Sthūlabhadra, Bhadrabāhu, Subhadra, see *Ind. Antiquary*, XXI, 350; Hoernel's paper, in 1892, pp. 57-84. Astronomical evidence also points to 544 B.C. (See Sen Gupta *Anc. Ind. Chro.*, 1947, pp. 217-221). If the Egyptians could cut granite with copper tools and the Mayans with stone tools (P.E. Cleator, *The Past in Pieces*, p. 143, and the experiments of National Museum, Washington), the Aryans could have cut the jungles of the Indo-Gangetic plains with copper/bronze tools or even burnt them. Besides it has been shown that Iron Age is to be dated not 800 B.C. but 1600 B.C. (vide R.C. Gaur, *Ex. at Atrañjikhera*, 1964 ; B.P. Sinha, *Mahābhārata and Arch.*, *PIHC*, Aligarh, 1975 ; M.D.N. Sahi, 'Antiquity of Iron in India', *PIHC*, Cal. 1974 and also 'Stratigraphical and Chronological Position of Iron Objects from the Excavations at Ahar', *PIHC*, Aligarh, 1975, (the excavation was carried out by H.D. Sankalia and associates. Pandey, '*Iron Evidence from Eran*', Paper read before Ind. Arch. Cong. Delhi, 1974-5. If the Carbon-14 dates of these finds is corrected with "MASCA factor", the Iron Age goes back to the 17th century B.C., in India.

[20]Cunningham *Arch. Survey Report*, 1868; Colebroke, *Asiatic Res.*, IX, 323, 329, *JASB*, 1862, p. 51, Brenand, *Hindu Astronomy*, pp. 112-125, and others on the basis of *Vedāṅga Jyotiṣa* calculated the date of the Bhārata war about 1425 B.C. and S.B. Roy, *Ancient India.*, 36-63.

date for the Bhārata battle it is worthwhile to gather together the relevant data which would form the basis of the calculations :—

(*i*) यावत् परीक्षितो जन्म यान्नदंभिषेचनम् ।
एतद् वर्षं महस्रन्तु ज्ञेयं पञ्चादशोत्तरम् ॥

Vāyu Purāna, 94.15

(*ii*) यावत् परिक्षितो जन्म यावन्नदाभिषेयनम् ।
एदद् वर्षं सहस्रन्तु ज्ञेयं पञ्चदशोत्तरम् ॥

Matsya Purāna,

(*iii*) यावत् परिक्षितो जन्म यावन्नदाभिषेचनम् ।
एदद् वर्षं महस्रन्तु ज्ञेयं पञ्चाशदुत्तरम् ॥

Viṣṇu Purāna, pt. IV, ch. 24.

(*iv*) महानन्दाभिषेकान्तम् जन्म यावत परीक्षितः ।
एतद् वर्षं सहस्रन्तु ज्ञेयं पञ्चशदुत्तरम् ॥

Brahmāṇḍa Purāna, II, 3.74.227.

(*v*) आरभ्य भवतोजन्म यावन्नदाभिषेचनम् ।
एतद् वर्षं सहस्रन्तु शतं पञ्चादशोत्तरम् ॥

Bhāgavata Purāna 12.2.21.

(*vi*) महापद्मभिषेकातु यावज्जन्म् परिक्षितः ।
तावद्वर्षशतं ज्ञेयं दशपञ्चाशदुत्तरम् ॥

Pargiter, *Dynasties of the Kali Age*, pp. 58, 74.

(*vii*) प्रमाणं वे तथा वक्तं महापद्मोत्तरञ्च यत् ।
अन्तरं तच्छतान्यष्टौ षट्विशन्तु समास्मृताः ॥

Brah. & Vāyu and *Dynasties Kali Age*, 58 74.

(*viii*) एतद् वर्षं कालान्तरं भाव्या अन्ध्रान्तद्याः प्रकीर्तिताः ।
तावन् कालन्तरं भाव्यामान्ध्रन्तादा परिक्षितः ॥

Dynasties of the Kali Age, p. 58.

(*ix*) सप्तर्षय. मघायुक्ताः काले पारिक्षिते समे (दिवि) ।
अन्ध्रान्ते तु चतुर्विशे भविष्यन्ति शतं (शते) तदा ॥

Vāyu and *Matsya Puranas*

(*x*) यदा मघातो यास्यन्ति पूर्वाषाढ़ं महर्षयः ।
तद् नन्दात् प्रभृत्येव कलिर्वृद्धि गमिष्यति ॥

Viṣṇu and *Bhāgavata.*

(*xi*) ते त्वदीये द्विजाः कालेऽधुनाचाश्रितामाघा ।
यदा देवर्षय. सप्तमघासु विचरन्तिहि तदा कलिर्द्वादशात्मकः ।

Bhagavata.

(*xii*) यस्मिन् कृष्णो दिवं यातस्तस्मिन्नेव तदाहनि ।
प्रतिपन्नं कलियुगं ॥

All *Purānas*

(*xiii*) तेतु पारिक्षिते काले मघास्वासन् द्विजोत्तम् ।
(*xiv*) ते त्वदीये द्विजाः कालोऽधुना चाश्रिता मघा ।
यदा देवर्षयः सप्तमघासु विचरन्तिहि तदा कलिर्द्वादशाब्दशतात्मकः ॥

Bhāgavata

(*xv*) तत्याज सानुजो राज्यं धर्मपुत्रो युधिष्ठिरः ।
······याते कृष्ण चकाराध सोभिषेकं परिक्षितः ।

(*xvi*) तदा प्रवृतश्च कलिर्द्वादशाब्द शतात्मकः ।

(*Manusmṛti*, I, pp. 69-70 also accepts Kaliyuga of 1200 years—human).

(*xvii*) प्रजा इमास्तव षष्टि वर्षाण्य पालयत् ।
ततोदिष्ठान्तमापन्न सर्पेणानतिवर्तितम् ॥

Mahābhārata, Crt. Ed. I. Vol. I, p. 201 Adiparva.

(*xviii*) इदं वर्ष सहस्राय राज्यं कुरु कुलागतम् ।
बाल एवाभिजातोऽसि सर्वभूतानुपालक ॥

Ibid, Vol. I, p. 202. Adiparva

(*xix*) परिश्रान्तोवय. स्थश्च षष्टिवर्षो जरान्वित ।
क्षुधितः स महारण्ये ददर्श मुनिमन्तिके ॥

Ibid., Vol. I, p. 202.

(*xx*) श्रियाजुष्ट महासेन देवसेनापतिं कृतम् ।
सप्तर्षिपत्न्यः षड्देव्यस्तत्सकाशमयागमन् ॥
ऋषिभि. सपरित्यक्ता धर्मयुक्ता महाव्रता. ।
द्रुतमागम्ये चोचुस्ता देवसेनापतिं प्रभूम् ॥
वय पुत्रपरित्यक्ता भर्तृभिर्देव संमितैः ।
अकाराणात् रूपाताात् पुण्य स्थानात्परिच्युता. ॥
अस्माभिः किलजातस्वमितिके नाप्युदाहृतम् ।
तत् सत्यमेव संश्रुत्य तस्मान्नस्त्रातुमर्हसि ॥
अक्षयश्च भवेत् स्वास्त्विवत् प्रसादाद् हि नः प्रभो ।
त्वां पुत्रं चाप्यभीप्सामः कृत्वैतदनृणोभव ॥
स्कन्द उवाच
मातरोहि भवत्यो मे सुतो वोहमनिन्दिता ।
यद्वापीच्छत तत् सर्वं सभविष्यति वस्तथा ॥

विवक्षतं ततः शक्रं किं कार्यमिति सोऽब्रवीत् ।
उक्तः स्कन्देन ब्रूहीति सोऽब्रवीद् वासवस्ततः ॥
अभिजीत् स्पर्धमाना तु रोहिण्यां कन्यसी स्वसा ।
इच्छन्ती ज्येष्ठतां तात तपस्तप्तुं वनं गता ॥
तत्र मूढोऽस्मि भद्रं ते नक्षत्रं गगनाच्च्युतम् ।
कालं त्विमं परं स्कन्द ब्रह्मणा सह चिन्तय ॥
धनिष्ठादि तदा कालो ब्रह्मणा परिकल्पितः ।
रोहिणी ह्यभवत् पूर्वं एवं संख्या समाभवत् ॥
एवं उक्ते तु शक्रेण कृत्तिकास्त्रि दिवंगताः ।
नक्षत्रं सप्तशीर्षाभं भाति तद्वह्नि दैवतम् ॥

Astronomical Reform (*Dhaniṣṭādi*)
Māhabhārata, Crt. Ed. Vol. IV
pp. 777-78; Āranya Parva 3.219.3.

(*xxi*) दिष्ट्या प्राप्तोऽसि कौन्तेय सहामात्यो युधिष्ठिर ।
परिवृतो हि भगवान्सहस्रांशु दिवाकरः ॥
अष्ट पञ्चाशतं रात्र्यः शयानस्याद्य मे गताः ।
शरेषु निशिताग्रेषु यथा वर्षशतं तथा ॥
माघोऽयं समनु प्राप्तो मासः सौम्यो (पुष्यो) युधिष्ठिर ।
त्रिभाग शेषः पक्षोऽयं शुक्लो भवितु मर्हति ॥

Māhabhārata, Crt. Ed. Vol. XVII, pt. 2,
p. 781, —Anusasana Parva, 13.153.12.

(*xxii*) सप्तमाच्चापि दिवसाद् अमावस्या भविष्यति ।
सङ्ग्रामं युज्यतां तस्यां तामाहुः शक्रदैवताम् ॥

Ibid., Vol. VI, p. 505, Udyoga, 5.141.3.

(*xxiii*) शृणुष्वावहितो राजन् शुचिर्भूत्वा समाहितः ।
भीष्मस्य कुरुशार्दूल देहोत्सर्गं महात्मनः ॥
निवृत्तमात्रे त्वयने उत्तरे वै दिवाकरे ।
समावेशयदात्मानं आत्मन्येव समाहितः ॥

Vol. XIII, pt. II. p. 191 ; Sānti. Ch. 47.

(*xxiv*) सप्तर्षयस्तथा प्रांशु प्रदीप्त नाग्निनासमम्
or सप्तर्षयस्तदा प्राप्ताः पित्र्ये पारिक्षिते शतम् ।
सप्तविंशैः शतैः भाव्या [सप्तविंशति भाव्येन] अन्ध्राणां तेऽन्वया पुनः ।

Matsya, Brahmāṇḍa and Vāyu ; cited by
Jayaswal, *JBORS*, Vol. III, 1917, pp. 249-50.

(*xxv*) सप्तर्षीणां च यौ पूर्वौ दृश्येते ह्युदितौ निशि ।
तयोर्मध्ये तु नक्षत्रं दृश्यते समं दिवि ॥
तेन सप्तर्षयो युक्तास्तिष्ठन्त्यब्द शतं नृणाम् ।
नक्षत्राणामृषीणां च योगस्यैतन्निदर्शनम् ॥
सप्तर्षयो मघायुक्ता काले पारिक्षिते शतम् ॥

Matsya (Anandasrama), Ch. 99, 421-424.
Srimadbhāgvata, (Vangavasi)

(*xxvi*) काह्रो मनवो ढमनुयुग श्ख गतास्ते च मनुयुग छ्ना च ।
कल्पादेर्युगपादा ग च, गुरुदिवसाच्च भारतात् पूर्वं ॥

Āryabhattīyam ; Daśagitikā, I. 5.

(*xxvii*) षष्ठ्यब्दानां षष्टिर्यदा व्यतीतास्त्रयश्च युगपादाः ।
त्र्यधिकाविंशतिरब्दा स्तदेह मम जन्मनोऽतीताः ॥

Ibid., Kālakriya, II. 10

(*xxviii*) त्रिंशत्सु त्रिसहस्रेषु भारतदाहवादितः ।
सप्ताब्दशतयुक्तेषु गतेष्वब्देषु पञ्चसु ॥
पञ्चाशत्सु कलौ काले षट्सु पञ्चशतासु च
समासु समतीतासु शकानामपि भूभुजाम् ॥

Aihole Inscrip. 633-34 A D. of
Pulakesin II, *Epi. Indica*, VI, 1 ff.
Ind. Ant., V, 7 ; VIII, 237.

(*xxix*) शतेषु षट्सु सार्धेषु त्र्यधिकेषु च भूतले ।
कलेर्गतेषु वर्षाणाम् भुवन् कुरुपाण्डवा ॥

Rājtarangini, I. 51.

(*xxx*) अन्तरे चैव सम्प्राप्ते कलिद्वापरयोरभूत् ।
स्यमन्तपञ्चके युद्ध कुरुपाण्डव सेनयो. ॥

Mahābhārata, Adiparva, 2.13.

(*xxxi*) एतत् कलियुग नाम अचिराद् यत् प्रवर्त्तते ।

Mahābhārata, Vanaparva, 149.39.

(*xxxii*) प्राप्त कलियुग विद्ध प्रतिज्ञां पाण्डवस्य च ।
आनराय यातु वैरस्य प्रतिज्ञायश्च पाण्डवः ॥

Śalya, 61.23.

(*xxxiii*) यदैव भगवान्विष्णोरंशो यातो दिवं द्विजः ।
वसुदेव कुलोद्भूततस्त दैवात्रागतः कलि ॥
यावत्स पादपद्माभ्यां पस्पर्शेमां वसुन्धराम् ।
तावत्पृथ्वी परिष्वगे समर्थो नाभवत्कलि. ॥

Visnu Purāna (Gita Press) pp. 355-56.

(*xxxiv*) सप्तर्षयस्तदा पुष्ये प्रतीपे राज्ञि वै शतम् :

Dynasties of the Kali Age, 59.

(*xxxv*) सप्तर्षयस्तु तिष्ठन्ति पर्यायेन शतं शतं ।
सप्तर्षीणां युगम् हि एतद् दिव्यया संख्यया स्मृतम् ॥

Dynasties of the Kali Age,

(*xxxvi*) माघशुक्ल प्रपन्नस्य पौषकृष्ण समापिनः ।
युगस्य पञ्चवर्षस्य कालज्ञानं प्रचक्षते ॥
स्वराक्रमेते सोमार्कौ यदा साकं सवासवौ ।
स्यात्तदादि युगं, माघस्तपः शुक्लोऽयनं ह्युदक् ॥

Vedāṅga Jyōtiṣa; Winter Solstice, 1270 B.C.

(*xxxvii*) चन्द्रे ताराव्यूह ज्ञानम्-३.२७; ध्रुवेतत् गति ज्ञानम् । ३.२८

Patanjali Ist, *Yogasutra* (observation of Polestar, K. Draconis, 1290 B.C.)

(*xxxviii*) प्रधान्यतः प्रवक्ष्यामि गदतो मे निबोधत ।

(IMPORTANT).

A careful consideration of these passages enables one to draw the undermentioned inferences :—

(a) passages para VII (i) to (vi) show that the interval between the birth of Parīkṣit, grandson of Arjuna was 1015, 1050 or even 1500 years.

(b) passages para VII (xii), (xvi), (xxxvi), state that on the passing of Kṛṣṇa, Yudhiṣṭhira abdicated installing Parīkṣit and that *Kali* could not extend its sway until Kṛṣṇa's passing.

(c) The passages para VII (vii) to (xi), (xiii, xiv) state that the *Saptarṣis* i.e. Ursa Major were in *nakṣatra Maghā* at the time of Parīkṣit and that they dwell for 100 years in each of the 27 *nakṣatras* ; and also that then the *Kaliyuga* of 1200 years was commenced (this is supported by *Manusmriti*, I.69-70).

(d) Passage para VII (xvii) states that Parīkṣit reigned for 60 years.[21]. But the passage (xx) tells us that by

[21]There is some confusion. If Parīkṣit ruled 60 years, he must have been 96 when he died! His son Janmejaya was so young that details of his father's death had to be related to him. This is impossible. The other *śloka* which states that at 60 he was too old and sick should really imply that Parīkṣit died at 60 years age (See Asim Kumar Chatterji, 'Date of the Bharata war', paper read at the Seminar at Vidur

the time he was 60 years old, he was already become very old (too old to be any use).

(e) Passage para VII (xix) states that Janmejaya *III*, son of Parīkṣita *II*, *was only a child, when his father passed* away, and he had to be told how he died, and also that when Janmejaya was reigning his predecessors, starting with Kuru (=Kuru-Saṃvaraṇa, vide Pusalkar, *Epics and Puranas of India*, pp. 42-49, where he shows that this monarch is mentioned in the *Ṛgveda* X.32 9 ; 33.4, under the name, Kuruṣravaṇa), had been ruling the kingdom for 1000 years.

(*f*) Passages para VII (xxvii), (xxviii), are the first reference to 3102 B.C. date for Bhārata war. There is none earlier in Sanskrit literature.

(*g*) Passage para VII (xxx) and (xxxvii) give the date as 2449 B.C. for the war.

(*h*) Passage para VII (xxix) of the Aihole inscription (633-4 A.D.) is the first epigraphic reference to the date 3102 B.C. for the war.

(*i*) Passages, from the *Mahābhārata*, para VII (xxii to xxiv), state that the war was begun on the amāvasyā in *Jyeṣṭha Rohiṇī nakṣatra* (i.e., Antares) and Bhīṣma died on the winter solstice day with the commencement of *uttarayana*, 67 days after the commencement of the war, in the month of *Māgha* (solar) and when 3/4th of the lunar month also had been over.

(*j*) Passages under (xxxi) from the *Mahābhārata*, show that the *Kṛttikā* period, under the system of 27 *nakṣatras*

Sewā-Āshram, Bijnor, in Oct. 1975, and also his *Ancient Indian Literary and Cultural Tradition*, p. 9). The epic here is definitely confused. Some confusion has also been caused by the mistake of Ray Chaudhuri (*Pol. Hist. of Anc. Ind.*, Vol. I, p. 494 ; further he also makes a wild guess that Asandivat which was the capital of Parīksit I, i.e., Hastinapura, a mistake committed by P.L. Bhargava also). Similarly Altekar and C.V. Vaidya have also merged Parikṣit I into Parikṣit II. A ref. to *Aitareya Brāhmaṇa*, VIII. 21 and other places e g. *Rgveda*, VII. 18.12 ; *Sāṅkhyāyana Sūtra*, XVI. 8.27, and also the *Mahābhārata.* (crt. ed.), Sāntiparvan, 146.2 ff, Bhīṣma relates the story of Parikṣit Janmejaya (i.e. Janmejaya II, son of Parikṣit I). who cannot be Janmejaya *III*, great grandson of Arjuna.

zodiac came to an end (1589 B.C.) and as the people wanted its continuance (i.e. vernal equinox should continue to be associated with *Kṛttikā* (Pleaides), the problem was solved by the inclusion of *Abhijit* in the system thus making the *nakṣatras* 28.

(*k*) Other passages show that while Parikṣit was in the *Māgha* century (the cycle starts with *Kṛttikā*, in 2200 B.C.) ; The Nandas in *Pūrvāṣaṭha* century, the end of the Andhras in the 24th century (i.e. *Uttara-Bhādrāpada century*) and the end of the Post-Andhras in the 27th, i.e. *Bharaṇi* century.

VIII. The dates 3102 or 3138 or 2449 B.C. are *prima facie* impossible, as the Purāṇas state that there were, between the war and 600 B.C. (Buddha 624-544 B.C.), 25 kings, and they could not have averaged 2500/25=100 years each ; similarly the interval between 2449 and 600 would give an average of another impossible 1850/25=74 years. In a similar manner, the interval 1500 years between the war and the beginning of the Nanda Dynasty in 413 (or 409) B.C. is inadmissible, as 22 Bṛhadratha kings+12 Śaiśunāges (=34 kings) could not have ruled 45.3 years each.[22] Those scholars who maintain this date, either reject the Purāṇic data altogether or treat the Dynasties as successive while at least two of them were contemperaneous.[23] A third set of scholars does not try to fill the gap at all.[24]

[22]No Dynasty in any part of the world has had such an average. The 17 kings of Egyptian Dynasties I and II ruled for 555 years, thus averaging 32.8 years per king; See Sidney Smith, *Early Hist. of Assyrie*, p. 39 ; Herodotus, *Histories*, p. 158 ; O.R. Gurney, *The Hittites*, p. 216.

[23]P.C. Sen Gupta, *Anc Ind. Chro.*, 1947, pp. 54-56, rejects ; and so does C.V. Vaidya. The former does not bother to fill the gap, and insists on 2449 B.C. date. Krishnamcharya, *Hist. of Sansk. Lit.*, denies that the inscriptions of Aśkoa are his but of Samudragupta, to whom he gives the title 'Aśokaditya', which is not fourd in any Gupta inscription. He further dates Aśoka 1474 B.C., thus ignoring the evidence of Kandhar Inscription of Aśoka, which contains 4 letters which were adopted in Greek alphabet in 402 B.C. He fills up the gap thus :—Bṛhadrathas 1006+Pradyotas 138+Śaiśunākas 360+Nandas 100+Mauryas 316+ Suṅgas 300+Kanvas 85+Andhras 506=2811 years.

[24]Ravindrakumar Bhattacharya in a paper read on a Seminar on Bhārata war in Cal. Uni., 1967, states that the interval between the war and Nanda, whom he dates 581 B C. was 2500 years, and thereafter Chāṇakaya and family ruled for 100 years and then the Mauryas !

IX. Thus we are left with the figure 1050 and 1015 years as the interval between the war and the coronation or commencement of the Nanda Dynasty. As Mahānandā (=Nanda II,=Bhadrasena, etc., *JBORS*, Vol. I, 1915, p. 116 (409-413 B.C.), and Mahāpadma Nańda came to power in either 378 or 374 B.C.[25], the date of the war works out to be 409-(413)+1015=1424 or 1428 B.C.; or reckonning from Mahāpadma Nańda, it would be 378(374) B.C.+1050=1428 or 1424 B.C. Another set of data confirms this. Buddhist and Jaina literature assures us that Buddha, Biṁbisāra (Vedisāra in the Purāṇas), Caṇḍa Pradōyta of Avańti, Prasenajita of Kośala, Udayana of Kauśāmbī were contemporaries and according to the Purāṇas there were 25 kings between the war and Udayana. Thus 25×33+624=1449 B.C. for the war. A third set of figures is derived from the rulers of Magadha. Sōmapi to Ripuñjaya, 22 kings, 700 years+362 years for the 12 Śaiśunāgas=1062 years+378 for Mahapadma Nanda gives 1440 years B.C. for the war. Thus the historical data in the Purāṇas give a date between 1450 and 1410 B.C.: perhaps a mean date between say 1432 and 1415 would be nearer the mark.[26]

[25]*JBORS*, Vol I, 1915, pp. 69-116; *Ibid*, Vol. III, 1917, pp. 246-262; *Ibid*, IV, 1918, pp. 26 ff. The evidence of Pradyotas being associated with Avańti only is decisive inspite of Bhide (*JBORS*, VII, 106-112) and L.B. Kenny, *PIHC*, Aligarh, 1943, 101-09. See the opposite view maintaining that the Pradyotas were only in Avańti and never in Magadha, Ray Chaudhuri, *Pol. Hist. of Anc. Ind*, pp. 146-47; Rangacharya, *Pre-Musulman India*, Vol. VI, pp. 219 ff.

[26]Re: Vernal equinox in *Kṛttikā*, see Lok. Tilak, *Orion*, XXX, pp. 32-60 (*Taitt. Sam.*, IV. 4.10; I. 7.7; *Śukla Yajus.*, IX. 7; *Taitt. Brāh.* I. 5.1; *Atharva Veda*, XIX. 7.1-5; *Śatapatha Brāh.*, 2.1.2). The calculation of the limits of the *Kṛttikā* period :—Winter solstice was at the end of the first quarter of *naksatra Dhaniṣṭhā* (Delphini), when the vernal equinox was at the first point of *Kṛttikā* (system of 27 *naksatra*-zodiac). Delphini marked the first point of *Dhaniṣṭhā*. Thus Longitude of the First point of *Dhaniṣṭhā* in A.D. 499 was 295° 29′+1/4th *nakṣatra*=3° 30′. Total is 298° 49′ in 499 A.D. (i.e., the longitude of the southern solstice with equinox at *Kṛttikā*). Longitude of southern (winter) solstice referred to the equinox of 499 A.D.=270. Precession of equinoxes upto 499 A.D. was 298° 49′—270°=28° 49′. Thus the interval upto 499 A.D. (precession rate=49.7124″ per annum) was 28° 49′/49.7124″=2087 years. Hence the equinox was at the beginning of *Kṛttikā* in 499—2087=—1588 A.D.=1589 B.C. The upper limit of vernal equinox at *Kṛttikā*, in the

X. This date is supported by astronomical statements in the Purāṇas and also the *Mahābhārata* (see the passages under para VII (xxi—xxvi). Perhaps the best discussions of the astronomical data are those of T. Bhattacharya (*Jour of Gangānāth Jhā Res. Inst.*, Vol. VIII, 1950, pp. 1-78 and that of S.B. Roy, *Ancient India*, 1974, pp. 37-51, 55, 59-64, 73-75, 87-88, 88-91, 131-151). Bhattacharya argues thus :

XI. The statements of Sri Kṛṣṇa (para VII, xxiii) and Bhiṣma (para VII, xxii and xxiv) imply :—

(*a*) That *tithi* on the first day of the war was *amāvāsyā*; the sun was in the *nakṣatra Jyeṣṭha-Rōhinī* ; Bhiṣma died on the southern (winter) solstice day at the beginning of the solar month of *Māgha* ; three fourths of the lunar month was over and hence the *tithi* was *Śukla* eighth ; and that the war began 67 days before Bhiṣma died (he fell on the evening of the tenth day of the battle).

(*b*) This implies that the sun required 67 days to move from the *nakṣtra Jyeṣṭha* (*Rōhiṇī*) to the then southern solstice = 67°.

(*c*) The *nakṣatra Jyeṣṭha* (*Rōhinī*) is fixed in the sky and is to the west of the southern solstice, which gradually

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27 *nak.*-system was 2560 B C. The astronomical reform (para VII, xxi) by the inclusion of *Abhijit* can be calculated thus : Long. of *Jyeṣṭha-Rohiṇī* Antares), in the older 27 *nak.*-sys. in 499 A.D.=228° 54'. Longitude of the first pt. of *Dhaniṣṭhā*=295° 29′ (in 499 A.D.). Distance of star *Jyeṣṭha* from the first pt. of *Dhaniṣṭhā*=293° 25′ (in 499 A.D.). Beginning of the *nak. Jyeṣṭha* in the 27 *nak.*-zodaic=293° 20′. Subtract (293° 25′—293° 20′=0° 5′). The star *Jyeṣṭha* was thus only 5′ in advance of the beginning of the *nak Jyeṣṭha* (in the 27 *nak.*-zodaic). According to the 28 nak.-system, the long. of *nakṣatra Jyeṣṭha*=282° 51′ 26″ ; Long. of the 'star' *Jyeṣṭha*±293° 25′. Thus the distance between the star *Jyeṣṭha* from the first pt. of *Dhaniṣṭhā* (27 *nak* -zodiac)=10° 33′ 34″. The star *Jyeṣṭha* (*Rohiṇī*) was thus shifted towards the east by more than 3/4th *nak.* (the zodiac is divided into 360° and hence each *nakṣatra* is either 360°/27 or 360°/28 degrees). The end of vernal equinox in the new (28 *nak* -zodiac) in *Kṛttikā* is calculated thus : Long. of the 1st pt. of *Dhaniṣṭhā* (499 A.D.) was 295° 20′ ; Long. of the 1st pt. of *Dhaniṣṭhā* from equinox at 1st pt. of *Kṛttikā*, (28 *nak.* zodiac)=270° 0′. Precession in the interval=295° 20′—270° 0′=25° 29′. The duration of this interval was therefore 1845 years. Thus the date of the crossing of the 1st point of *Kṛttikā* (28 *nak.*-zodiac) was 499—2037=—1346 A.D.=1347 B.C.

and slowly changes at the rate of 1° in 72 years (precession of equinoxes), and it moves towards the west. In the days of the Bhārata war it took 67 days=67° for the sun to pass from *Jyeṣṭha* to then winter solstice. In 499 A.D. the same distance required 40.2 days= 40°2. In 1900 A.D., the journey was covered in 20.8 days. Thus in the interval between the Bhārata war and 1900 A.D. the sun required 67−20.8=46.2 days= 46°2. and in the interval between 499 A.D. and 1900 A.D. it took 40.2−20.8=19.4 days=19°4. If 'D' be put for the year of the Bhārata war, the date of the war comes out to be :—

1900-D/1401 (i.e. 1900−499)=46.2/19.4=1900−D= 46.2/19.4×1401=3335.

Thus D=1900−3335=−1435 A.D.=1436 B.C. or put in another form.

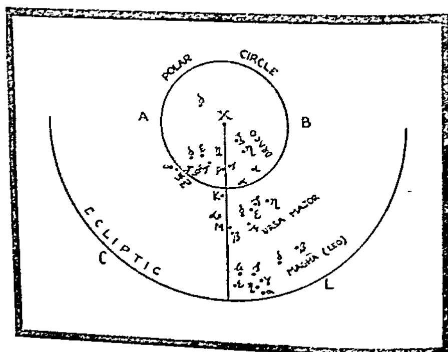
If 72 years are required to effect a shift of 1° the number of years required for shifting 46° 2=46.2 ×72 =3327 years. But this shift in 1900 A.D. was produced in 1900-D years. Thus 1900-D=3327. Hence D=1900−3327=−1427 A.D.=1428 B.C. Later in, by a more precise calculation Bhattacharya shows that the first day of the war was October 27, 1432 B.C.

(*c*) He supports this date from the statement of Mārkaṇḍeya (see para VII, xxi). He demonstrates that at the time of the war, the *naksatra*-zodiac was divided into 28 *nakṣatras*. The reason was that the vernal equinox was in *Kṛttikā naksatra* (2560−1589 B.C) ; and the people wanted it to continue.

This was achieved by converting the 27 *nakṣatra*-zodiac, into a 28 *nakṣatra*-zodiac by the inclusion of *Abhijit* (*Vega*) ; and thereby *Kṛttikā's* association with vernal equinox was extended by 3.1/3 degree, i.e. 3.1/3×72=242 years, in 1589 B.C. (as shown in the footnote no. 26). This extension came to its final end in 1347 B.C., as this method of expansion could not be applied when vernal equinox crossed over the limiting position of the end of the third quarter of *Bharaṇi* (A. Muscae) of the older system of *nakṣatras* i.e., 1347 B.C. To prevent confusion, the first point of *Dhaniṣṭhā* was kept identical in both

the 27 and the 28 *nakṣatra* systems. Hence the statement
"धनिष्ठादि तदाकालो ब्रह्मणा परिकल्पितः।"

XII. The dates determined in the foregoing paragraphs are confirmed by the Purāṇic statements (para VII, xxvi), according to which the *Maghā* (Regulus)—*Saptarṣi* (Ursa Major)—*Rekhā* (i.e., solstitial colure) passed through a point midway between the stars α and β of Ursa Majoris (see diagram below) :—



EXPLANATION OF THE DIAGRAM

It represents the sky north of the ecliptic, showing the constellations Ursa Major (*Saptarṣi*=Vedic '*Ṛkṣa*'), Ursa Minor (*Śiśumāra*), Draco (*Uttānapāda*), *Maghā* (Leo). The arc CL represents the ecliptic and the X the pole of the ecliptic AB (i.e. the Polar circle, along which the celestial pole (i.e. the pole of the celestial equator) gradually shifts to the west. K Draconis was the polestar at this time (α Draconis was the polestar in 2800 B.C. (Jacobi, *Ind. Anti.* XXIII, 1894, 154-59).

The pt. midway between and Ursa Majoris is M. X is the pole of the ecliptic. Line XMT cuts the ecliptic at T. If the long. of T is 90° at any time from the equinox of date, T would then show the northern solstice and XMT would represent solstitial colure.

Maghā-Saptarṣi-Rekhā (Solstial Colure) *at the time of* Parīkṣta II.

DRACO=उत्तानपाद्

LEO=मघा

URSA MINOR=शिशुमार

URSA MAJOR=सप्तर्षि (ऋक्ष)

DELPHINI=धनिष्ठा (श्रविष्ठा)

Bhattacharya, has thus calculated the approximate time of Parīkshita II[27] :—

A study of the chart will show that M is the point midway between the star α and β Ursa Majoris (*Sapta-ṛṣis*); X is the pole of the ecliptic (CL) ; AB is Polar circle along which the pole of the celestial equator shifts towards the west. XM cuts the ecliptic (CL) at T. If the longitude of T happens to be 90° at any time, from the equinox at that time, the point T would then be the then northern (i.e. summer) solstice and XMT would be solstitial colure. The K Draconis, the then pole star, (long. in 499 A.D.=115° 24′) was very close to the solstitial colure. Thus :—

Long. of M (pt. midway between α and β Ursa Majoris) in 499 A.D.	=116° 20′
Longitude of M from the equinox of the same date	= 90° 0′
Precession of equinoxes upto 499 A.D.	= 26° 20′

The interval between Parıkṣita II and 499 A.D.

26° 20′ 49″.732=1906 years.=499−1906=−1407 A.D.
=1408 B.C.

That this computation is true is shown by the fact that as the *nakṣatra Maghā* occupied 115° 29′ to 128° 20′ of the ecliptic and the longitude of the *Maghā-Saptarṣi-Rekhā* (solsti-

[27] *Journal of Ganganath Jha Res. Institute*, Vol. VIII, 1950, pp. 54-55.

tial colure) XMT was 116° 20′, the solstitial colure passed through the *nakṣatra Maghā*, as required in the Puranic statement.

XIII. The above date i.e., 1450—1400 B.C. for the Bhārata war has also been confirmed by the researches of Dr. Asim Kumar Chatterjee and Sri S.B. Roy. The former has worked it out thus[28] :—

> The statement of the Purāṇas that the interval between Parīkṣita II and the commencement of the Nanda Dynasty is 1050 years is to be preferred as the statement that this interval was 1500 years as the latter would give an average generation interval of 54 years, which is impossible ; that Parīkṣita died at the age of 60 years (*Mahābhārata*, Crt. ed., Ādiparva, Vol. I, p. 202 ; para VII, xix) ; that the statement of Kṛṣṇa, to Karṇa, (Crt. ed. Vol. VI, p. 505, Udyōgaparva, 5.141.3 ; para VII, ii) and the passing of Bhīṣma or the winter solstice day (Crt. Ed. Vol. XVII, pt. 2, p. 781, Anuśāsana Parva 13.153.12 ; para VII, xxi), show that war began at the beginning of the bright fortnight of the month of *Agrāhayaṇa* (*Mārgaśīrṣa*), and the date would be 1447 B.C.

XIV. Roy has also dealt with the statements of Kṛṣṇa and Bhīṣma, referred to above, and he states that the correct interpretation of the statement of Bhīṣma is that[29] :—

> "O Yudhiṣṭhira, the sun has certainly turned north...it ought to be the lunar month of *Maghā* well began, and *tithi ought* to be 3.75 of the white fortnight." (Thus unlike Bhattacharya, who holds that the *tithi* was *Śukla* 8th, Roy holds that it was the junction of the 2nd and 3rd *tithis*, and the winter solstice occurred the day before. He states 'The winter solstice ought to take place on *Maghā Śukla Dvitiyā-Tritiyā*' ; and that this is confirmed by rule laid down two centuries earlier by Vagambhrini, to the effect that winter solstice occurred on *Magha Śhukla Panchami* ; and a century later Lagadha (*Vedāṅga Jyōtisa*) placed it at the junction of

[28] A.K. Chatterjee, Paper on the Date of the Bhārata war read at the Seminar at Vidur Sewā-Āshrama, Bijnor, Oct. 1975. See also his *Anc. Ind. Lit. and Cult. Tradition*, 1974, pp. 72-78.

[29] *Anc. India*, 1974, pp. 38-41.

Pausha Kṛṣṇa and *Māgha Śuklu.* He works out the date to be between 1486-1414 B.C.

XV. Roy confirms this date by an interpretation of the reference to the *nakṣatra* in the Hisse-Borla inscription reading[30] :—

सिद्धं तस्य वृत्तस्य वा २० सप्त-(रापे उत्तर सुवच्च)...व्द(1)
ना(म) ३८० वाकाटकानाम् श्री देवसेनस्य ।

The problem is the identification of the *nakṣatra* mentioned in the inscription. Roy maintains that[31] :—

(*a*) of the three pairs of *nakṣatras* in which the 27 *nak-*

[30]*Epi Indica*, Vol. XXXVII, pt 1, 1967, p 1 ff
[31]*Ancient India*, 1974, 131-135 He finds support for his date from the work of Āryabhatti, which gives the beginning of *Kali* as 1374 B C. (*Ibid*, pp 141 47). Curiously, enough Jayaswal, *IBORS*, Vol III, 1917, 246-262, also by utilising the data in the *Matsya*, *Vāyu* and *Brahmāṇḍa* (para VII, xxiv) arrived at the same conclusion and assigned the beginning of *Kaliyuga* to 1388 B C Some scholars in the recent controversy have derided the value of astronomical evidence It is worth-while reminding them that even the ancient Egyptian chronology, on which depends the chronology of ancient Sumero-Akkadian civilization itself is based on the astronomical "sothic cycle", and Sir Max Mallowan (*Camb Anc. Hist* , Rev , 1971), Vol I, pt 2, pp 242-3, has been constrained to deny the reliability of the latest C-14 dates which would begin the Early Dynasty I in 2200 B C as the evidence of Egyptian astronomy (sothic cycle papyri) and epigraphy cannot be jettisoned. And on this chronology depends the date of the Indus Civ ! The reliability of astronomically determined date in Indian context is well brought out by Sen Gupta (*Anc Ind Chro* , 1947 pp 222-243) One example should suffice. Dr Fleet, on the basis of Alberuni's statement (Sachau's tras , Vol I, p 7) and assisted by S B Dixt, (see *Corus Inscriptionum Indicarum*, III, 127) stated that the Gupta era year 1=319-21 This is not good enough Sen Gupta, *Ibid* , pp 244-262, has examined 12 inscriptions which give astronomical data as also the Gupta year in which they were invised One such inscription is the Eran inscription of Budhagupta (*Gupta Inscrip* , p 80), which states —

शते पञ्चपष्ट्यधिके (१६५) वर्षाणाम् भूपतौ च बुध गुप्ते
आषाढ मास शुक्ल द्वादश्या सुरगुरुदिवसे ।।

Sen Gupta examine this date (484 A D) as given in the inscription thus

"The inscription states that the 12th tithi of the light half of lunar Asadha of the Gupta year 165 fell on a thursday " By utilizing modern astronomical method the result is

The year 165 is astronomically similar to 1924 A D The elapsed

ṣatra zodiac was divided, only the *Pūrva* and *Uttara Bhādrapada nakṣatra* will suit the text as the result of assuming that it was (a) '*Uttara Aṣāḍha*' would be that the *Pūrvāṣāḍha* century would have to be dated 124-224 A.D., and the Purāṇas mention that Mahāpadma Nanda lived in the *Pūrvāṣāḍha* century ; thus the latter would be pulled down from the 4th century B.C. ; (b) If the *nakṣatra* in the inscription be taken to refer to *Uttara Phālguni*, the *Maghā* century would have to be in 2450 B.C., and this would push Mahāpadma Nanda to 1450 B.C. or more. This also is

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years between this year and 1924 A.D.=1440 (sidereal)=5,25,969 days. Increase it by 1 i.e. 5,25,970 and divide this by 7. The remainder is 4, i.e., he has converted the 5,25,969 into weeks. Thus the inscription's statement that it was a thursday is confirmed, and it corresponds to July 13, 1924. Applying, 5,25,969 backward to July 13, 1924 A.D., and arrive at the date June 21, 484 A.D., the date of the inscription. This date was 14.5 Julian centuries+181.25 days before Jan. 1, 1900 A.D. Hence on June 21, 484 A.D. at G.M.N.

Mean Sun=91° 12′ 50″.64
Mean Moon=235° 7′ 53″.42
Lunar Perigee=335° 23′ 2″.80
Ascendent Node=277° 14′ 51′, 51
Sun's Apogee=76° 14′ 32″
Sun's eccentricity=.0173175

} Hence 2e=119 0564
5/4×e²=1′/290

From these the same Mean places at preceding Ujjayini midnight would be on June 20, 484 A.D. :—

Mean Sun=90° 30′ 47″.38
Mean Moon=225° 45′ 41′.78
Lunar Perigee=335° 18′ 17″.61
A. Node=277° 17′ 7″.03

} Apparent Sun=90° 2′
do—Moon=219° 47
(nearly)

Thus at Ujjayini mean midnight of the day before (Wednesday), the 11th *tithi* was current, and next day, *thursday*, had at sunrise the 12th *tithi* of the lunar month of *Āṣāḍha*.

By Siddhāntic Method :—According to the *Khandakhādyaka* of Bṛhamagupta, the Kali Ahargana on this Wednesday at the Ujjaiyini Mean Mid night was=1309545. Hence :—

Mean Sun=91° 3′ 4″
Mean Non=226° 23′ 17″
Lunar Perigee=335° 42′ 56″
A. Node=277° 35′ 17″,

The above two sets of the mean elements for the same instant are in fair agreement. *Hence the date of the inscription is Thursday, June 21, 484 A D., and the Zero year of the Gupta era is thus 319 A.D.*"

impossible. Thus the word '*Uttara*' in the inscription should be associated with *Uttara Bhādrapada nakṣatra*.

(*b*) Roy demonstrates that the year mentioned in the inscription should be connected with the Vikrama era (i.e. Malwā era) of 57 B.C., as Gai maintains, and not the Śaka era of 78 A.D. If this be accepted then everything falls into its proper place. Assuming, therefore, that the inscription year is in terms of Vikrama era, the date of the Bhārata war is :—

Let X by the date of the Bhārata war. According to the hypothesis of Gai, the *Maghā* century begins 36 years after (on the tradition that *Kali* began 36 years after the war). Hence the beginning of *Maghā* century=X+36 B.C. Since *Pūrvāṣāḍha* comes after ten *nakṣatras* (system of 27-*nakṣatras*) and *Uttara Bhādrapada* after 16 *nakṣatras*, the beginning of the *Pūrvāṣāḍha* century would be=X+100+36=X+1000+36 =X+1036 B.C. Similarly, the beginning of *Uttara Bhādrapada* century would be X+1636 B.C. and the end thereof X+1736. Hence the inscription is 380 *Śaka* (this word has been often used to denote a year only)=X+1736. Thus X=380−1736=−1356. But "O" *Śaka*=57 B.C. Hence X=(−1356)=1357+57 B.C.=1414 B.C. for the date of the War.

Thus literary and astronomical evidence converges on the point that the war was fought about 1432-1414 B.C. Although the arguments advanced by Roy, A.K. Chatterjee and T. Bhattacharya are independent and frequently different from each other, their dates are the same, as all hold that in the first day of the Bhārata war, the sun was in *Jeyṣṭhā-rōhinī* (ANTARES).

XVI. The attention of scholars is also invited to the observations of two eminent Egyptologists regarding the tendency to adopt lowest dates on purely arbitrary gounds :—

(*a*) Sir Alan Gardiner (*Egypt of the Pharaohs*, p. 68)[32], commenting upon the attempt scholars like Albright, Helck, Alexander Scharff, stated : "For our part we find it difficult to accept for the beginning of Dyn. I so low a date as 2850 B.C., that proposed by the late A. Scharff

[32]Compare the protest of H.H. Wilson, Whitney, St. Hillaire, against Max Muller (see para III, footnotes 9 and 10.)

on the basis of the equally uncertain chronology of Babylonia.

(*b*) W.C. Hayes (*Camb. Anc. Hist.* (Rev., 1971), I, p. 173 (pt. 1)[33] :-"It does not, however, entitle us to disregard this evidence and arbitrarily telescope the earlier periods of Egyptian history to allow for synchronisms with the admittedly fluid chronologies of neighbouring lands or merely to gratify an intuitive feeling that such eras as the Early Dynastic Period and the Old Kingdom 'could not' have been as long as our ancient sources indicate that they were."

The correct approach to ancient traditions is best illustrated in the words of Sir Alfread Lyall *Asiatic Studies*, 1st Series, 1884, p. 31) :—"If we may only receive as credible those ancient narratives which could not possibly turn out to be very plausible fiction, we shall be hard pushed for the trustworthy authentication of much early history, religious and secular. Secondly the example of the supposed assertion as to simultaneous rainfall at Plataea and in Masachusetts is hardly fair. A man's assertion of an isolated fact of which he could not possibly have any knowledge, either directly or by hearsay, is a very different thing from affirming credible facts which might reasonably, and according to the known habits of the people who relate the facts, have been handed down by tradition from the persons who witnessed them to those who related them".

XVI. The date 1432-1414 B.C. for the Bhārata war is also supported by the reconciliation of the *Yuga-gaṇanā* of the Purāṇas with the biological/statistical determination of generation interval[35] :—

[33]In reply to these who doubt the interval 1015 years between Parīkṣita II and Mahāpadma; compare the statement of Hayes, *Camb. Anc. Hist.* (1971) Vol. I, pt. 1. p. 174 "*Here the turin canon (iv, 17) comes to our ald with a total figure of 955 yrs .. we have no choice but to accept the figure at its face value.*" The figure is actually out by 88 years, as one of the Pharaohs of the VIth dynasty is given 20 years by the Turin canon, while Monumental evidence and Manetho give him 53 years. Also Gardiner, *Op. Cit.*, pp. 67-63.

[34]In rebutting the assertion of Grote, *History of Greece*, Vol. II. pp. 74-75, quoted under para 1 of this paper.

[35]G.S Basu. *Purāṇapraveśa* (Bāṅglā). Review in Eng. in *Saṁkhyā*, Vol. II, pt. 3, July 1936 ; Confirmed on epigraphic evidence, by Basham, *Studies in Indian History* 1963, pp. 80-88.

Generation No	Name & Date		Reconstructed by Dr. Bose *Yuga*	*Manu*	As mentioned in the Purānas *Yuga*	*Manu*
1.	Śvāyambhuva Manu	5958 B C.	1st	1st Krta		1st Kṛta
84.	Dakṣa-Pracetasa	3884 B.C.	13th	6th Trēta-Sandhyā	13th	6th Trētā Sandhyā
87.	Vaivasvata Manu	3814 B.C.	13th	7th Trētā	13th	7th
99.	Kaiandhama	3590 B C.	15th	7th Trētāmuka		Trétāmukha
105.	Balı	3477 B C.	16th	8th Trētā		8th
106.	Māndhatra	3458 B C.	16th	8th Trēta	15th	Trētā
111.	Tṛnabindu	3300 B C.	17th	8th Trētā	17th	Trēta
125.	Sagara	2958 B.C	19th	9th Trētā	19th	Trētā
141.	Mulaka	2458 B.C.	21st	10th Trētā	21st	Trētā-Dvāpara Sandhı
151.	Rāma	2124 B.C	23rd	11th Dvāpara	24th	Trētā
181.	Bṛhadabala	1446 B.C	28th	13th Kalı-Sandhyā	28th	Kalı-Sandhyā

The agreement between the Purāṇic chronology and that formulated by Dr. G.S. Bose, is remarkable. There are only three discrepancies, (a) Rāma of Ayodhyā is placed by him in *Drāpara* instead of *Tretā*, as the Purāṇas confused him with different Rāmas and (b) the discrepancy between the 23rd and 24th generations is due to the statistical uncertainty in the actual duration of the generation interval in particular cases and (c) the discrepancy in the case of Māndhatrī (15th-16th *Yuga*) is about 15 months per generation interval and is statistically negligible. It will be recalled that Bṛhadabala of Ayōdhyā was killed in *Cakravyūha* in the Bhārata war.

XVII. One point may also be noted. Some scholars have said that the astronomical statements in the Vedic literature, the Purāṇas and the Epics are back calculations. It has been proved beyond doubt that before the discoveries of Newton, Liebnitz, La Place, La Grange, etc., *back calculations could not have been made*; they are based on observational astronomy.[36] Archaeology

[36]P.C. Sengupta, *Science and Culture* 1938, pp. 26-29 ; *Anc. Ind. Chro.* 1947, pp. 19-24 ; John Playfair, *Edinburgh Review*. 1970, reproduced by Dharmapal, *Indian Science and Technology in the Eighteenth Century* (Impex India, Delhi, 1971)., pp. 9-69. He was a noted astronomer, Physicist and Mathematician. He writes (a) about the tables of star positions (p. 24), connected with *Kaliyuga* era, that these tables go back far into antiquity, (b) Re : the Moveable Zodiac (128). "The Brahmins place the beginning of their moveable zodiac at the time of the epoch 54° before the vernal equinox on in the longitude of 10s 6°, according to our, method of reckonning. Now M. Le Gentil brought with him a delineation of the Indian zodiac from which the places of the stars in it may be ascertained with tolerable exactness. In particular, it appears, that Aldebaran (*Rohiṇi*), or the first star of Taurus, is placed in the last deg. of the 4th constellation, or 53° 20′ distant from the beginning of the zodiac. Aldebaran was therefore 40′ before the point of the vernal equinox, according to the Indian astronomy, in the year 3102. Before Christ. But the same star by the best modern observations, was, in the year 1750, in longitude 2s 6° 17′ 47″; and had it gone forward, according to the present rate of precession of the equinoxes, 50″.1/3 annually, it must have been, at the era of Calyougham, 1° 3″ • before the equinox. But this result is to be corrected, in consequence of the inequality in the precession, discovered by M. De La Grange, by the addition of 1° 45′ 22″, to the longitude of Aldebaran, which gives the longitude of that star 13′ from vernal equinox, at the time of the Calyougham, agreeing within 53′ with the determination of the Indian astronomy. This agreement is the more remarkable, that the Brahmins by their own rules for computing the motion of the fixed stars, could not have assigned

has not yet been able to find any evidence which can throw any doubt on the date thus determined, based as it is on both historical and astronomical data

this place to Aldebaran for the beginning of the Calyougham, had they calculated it from a modern observation For as thy make the motion of the fixed stars too great by more than 3 ' annually (i e precession rate of 54″ adopted by Indians as against the highly incorrect 36″ of Hiparchus= (KCV) if they had calculated backward from 1491, they would have placed the fixed stars less advanced by 4° or 5°, at their ancient epoch," (c) "At the same time that this shows how difficult it is to back even for a lesser period than that of 3000 years, in an astronomical computation, it affords a proof, altogether demonstrative that the Indian astronomy is not derived from that of Ptolemy " (d) Re the mean place of the moon,at 3102 B C , he writes 'that the difference between the modern computations (e g Mayer's tables), and the anc Indian is less than 2/3rd of a degree, which for so remote an age and considering the acceleration of the moon s motion, for which no allowance could be made in an Indian calculation, *is a degree of accuracy that nothing but actual observation could have produced* (e) ' The equation p 38 of the sun's centre is an element in the Indian astronomy, which has a more unequivocal appearance of belonging to an earlier period than the Calyougham (f) On p 63, playfair observes, *' Of Such high antiquity, therefore must we suppose the origin of this astronomy unless we can believe, that all the coincidences which have been enumerated are but the effects of chance or what indeed were still more wonderful, that, some ages ago, there had arisen a Newton among the Brahmins to discover that universal principle which connects not only the most distant region of space, but the most remote periods of duration and De La Grange to trace, through the immensity of both, its most subtle and complicated operations* " (g) On p 63, again, he shows that the equation of the sun s centre and the obliquity of the ecliptic When compared with those of the present time, seen to point to a period still more remote, and to fix the origin of this astronomy 1000 or 1200 years earlier,that is 4300 years before the Christian era (All italics are mine K C V) See Elizabeth Baity, *Current Athropology* Act 1973, on Archaeo Astronomy and Ethno-Astronomy, and the comments of S B Roy therein and also latter s *Anct India* , where he has pointed out the bearing of the work of the B G Tilak, on the work now being done by scholar like Dr Baity

MAHĀBHĀRATA AND INDIAN ART

V. P. Dwivedi

Being deeply rooted in Indian culture, the *Mahābhārata* has formed one of the perennial sources of Indian art. Many literary works were also inspired by the epic. The Kāvyas *Kirātārjunīyam* of Bhāravi, *Naiṣadhiyacharita* of Śrīharṣa, *Śiśupālavadha* of Māgha in Sanskrit; *Naladaman*[1] of poet Babullah in Persian, and *Jayadrathavadha* and *Vakasaṁhāra* of poet Maithili Sarana Gupta in Hindi are only a few examples. It is significant to note that practically all the stories contained in the *Mahābhārata* found depiction in Indian art, thereby attesting to the popularity enjoyed by the great epic during the last two thousand years.

EARLIEST MANUSCRIPT AVAILABLE

It is really a great pity that although the Mahābhārata personage started finding place in Indian Art from the 2nd. century B.C., the earliest known manuscript of the *Mahābhārata* (hardly any manuscript discovered so far is complete) belongs only to the 13th. century A.D. (to be precise, 1261 A.D.) and is housed in Shantiniketan Library.[2] It is surprising that manuscripts discovered so far differ quite a bit in their texts. But the fact that almost all the important languages of India, Sanskrit, Bengali,

[1]An illustrated copy of the manuscript of *Naladaman* (dated 1657 A.D.) is presently in the Prince of Wales Museum, Bombay. It is written in Nastāliq style and its dialect is Avadhi. Its illustrations are painted in Deccani style These facts show that the story was quite popular from Lucknow (Avadhi region) to Aurangabad (Deccan).

[2]Sukthankar, V S., *The Āraṇyakaparvan*, Part I, Poona, 1942, p. VI of Introduction. The Bhandarkar Oriental Research Institute, Poona, has been publishing the Critical Edition of *Mahābhārata*, various parvas, each one based on the collation of several hundred manuscripts.

Telegu, Malayalam, Kannada, etc.,[3] have yielded manuscripts of the *Mahābhārata* belonging to different periods, shows that the epic was extremely popular with the masses and its copies were constantly in demand, although only in the mediaeval period.

EARLIEST ART DEPICTIONS

Despite this popularity we do not find Mahābhārata illustrations before the 2nd cent. A.D. There again Kṛṣṇa stories find greater favour with the artists than the rest, for which the source of inspiration could be more than one.[4] The representation of Kṛṣṇa can, however, be found on the coins of Agathacles belonging to 2nd cent. B.C.[5] This may be, at the present state of our knowledge, the earliest depiction of Krṣna in Indian art. Another depiction of Krṣṇa, learning Brāhmī alphabets at the *āshrama* of Guru Sandīpana, on a terracotta find from Sugh, Haryana, has also been assigned to the 2nd cent. B C.[6]

Kuṣāṇa period, responsible for introducing many new images for the first time in Hindu iconography, gave visual forms to many Mahābhārata characters Statues of Kṛṣṇa are more numerous than of any other personage.[7] Needless to say that this was because of his divine origin. Most of these were fashioned at Mathura. A panel relief (7″×4.5″) housed in the Government Museum, Mathura, shows Vāsudeva Krsna, Ekanarnsa and Balarāma.[8] Balarāma too found frequent representation in Kuṣāṇa art.[9]

[3]Sukthankar, V S., (Ed) *Mahābhārata*, Poona, 1942

[4]In the *Mahābhārata* he is primarily a warrior god, a spiritual guide and the helper of the Pāṇḍavas. The epic has exalted him on every possible occasion and has given elaborate details of numerous insignificant anecdotes of his life; but it hardly mentions anything about his childhood. Just in contrast to it, the *Purāṇas* narrate his childhood and tell us very little about his later life.

[5]Information from Dr. P. Banerjee, who is working on a comprehensive volume 'Krishna in Indian Art ' Courtesy acknowledged

[6]Chhabra, B C., "Sugh terracotta with Brahmi Bārākhaḍī", *Bulletin, National Museum*, New Delhi, No. 2, pp. 14-16.

[7]Information from Dr. P. Banerjee. Courtesy acknowledged.

[8]Acc. No. 67. 529. Also see: Srivastava, V.N. and Mishra Sivadhar, "Inventory of Mathura Museum sculptures since 1939 uptodate", *Bulletin of Museums and Archaeology in U.P.*, No. 11-12, Lucknow, 1973, p. 55.

[9]*Ibid.*

The story of Rājā Uṣīnara giving shelter to a pigeon and then giving away his own flesh in order to save the bird (in fact, Agni in disguise), a well known legend of the *Mahābhārata*, also found depiction on a railing pillar of the Kuṣāṇa period.[10] On the outer side of this pillar a charming female figure is shown standing with a bird on her right shoulder and holding a bunch of grapes in her left hand. The inner side shows the story of Rājā Uṣīnara in three panels, the lower most of which is badly damaged.[11]

The story of Riṣya-Ṣṛṅga also forms a part of the *Mahābhārata*[12] and often found depiction in Kuṣāṇa sculptures of Mathura. Ekaṣṛnga or Ṛṣyaṣṛiṅga, son of Vibhandaka, had a horn over his head. King Lomapada's territory was hard hit by draught and he was advised that if he could bring Ṛṣyaṛṅga to his territory, his arrival will cause rain. The young Brahmachārī, who had never seen a women in his life, was lured to the Kingdom and his arrival caused rain. Depiction of this story on more than one pillar shows its popularity. One pillar shows, on the front side, a charming woman holding a pot, and on the back side the entire story in panels.[13] Another pillar shows the Ṛṣi in wonder.[14] He can easily be recognised by the horn over his head.

The fact that these minor stories of the *Mahābhārata* were depicted on the railing pillars at Mathura shows, on the one hand, their popularity with the masses and on the other their didactic character. Perhaps that is why they are shown on the inner side. Also, that while doing the *pradikṣiṇā* of the shrine, the visitors could easily see them and take lessons from them.

[10]Lee, Sherman E., *Ancient Sculptures from India*, Cleveland, 1964, pl. 61A.

[11]It may be interested to note that the same theme occurs on a leaf of *Razma-nāmā*, dated 1598 A.D , at Baroda Museum and Picture Gallery, Baroda. See; Ganzoly, O.C., *Critical Catalogue of miniature Paintings in the Baroda Museum*, Baroda, 1961, p. 11.

[12]Rajagopalachari, C., *Mahābhārata*, Bombay, 1975, pp. 112-116.

[13]Sharma, R.C., *Mathura Museum Introduction*, Mathura, 1971, pp. 44-45 (Acc. No. 11.151).

[14]*Ibid.*, Pl. XXXVIII; Also see: Agrawal, V.S., *Indian Art*, Varanasi, 1965, page 228, pl. XLI, Fig. 133a.

MAHĀBHĀRATA THEME IN GUPTA ART

The Gupta period, the golden age of Indian literature and art, seems to have brought more popularity to the *Mahābhārata*, perhaps because the rulers of this dynasty were *'Parama Bhāgavatas'*. During this period, not only sculptures showing Kṛṣṇa in his various forms were carved but also other Mahābhārata scenes found depiction. The Bhārat Kalā Bhavan at Vārāṇasī has a splendid example of this period showing Govardhanadhara Kṛṣṇa (7′4″×4′10″), carved in Chunar sandstone.[15] It is assigned to 6th century A.D. Another sculpture, showing the same scene, has been discovered at Mandor and on stylistic grounds can be assigned to even an earlier period, 4th-5th cent. A.D.[16] Three stone sculptures of this period, showing Balarāma are housed in the Government Museum, Mathura.[17]

A terracotta plaque (2′1.5″×2′4″) showing two warriors mounted on chariots fighting each other with bows and arrows, both clad in full armour and wearing a *channavīra* or warrior's cross-belt on the chest with a *kīrtimukha* clasp has been discovered at Ahichchhatra.[18] It has been identified as 'fight between Yudhiṣṭhira and Jayadratha' by Shri T.N. Ramachandran and Sri C. Sivaramamurti.[19] This may, therefore, be called the first depiction of the *Mahābhārata's* main story in Indian art. The earlier depictions, it may be mentioned, showed either Kṛṣṇa or Balarāma or some minor stories. The source of inspiration for these themes could be other than the *Mahābhārata* as well. But for this panel it can be said with some amount of certainty that the artist must have got his theme from the *Mahābhārata* itself.

Mahābhārata (Vanaparva)[20] while describing the incident of

[15] Tadiya, 'Govardhanadhari', *Kalānidhi*, Varanasi, Vol. 2, pl. 1.

[16] Coomaraswamy, A.K., *History of Indian and Indonesian Art*, New York, 1965, pl. XLIV, 166.

[17] Srivastava, V.N., and Mishra, Sridhara, *op. cit.*, p. 53.

[18] Agrawal, V.S., "Terracotta figurines of Ahichchhatra, District Bareilly, U.P.", *Ancient India*, 4 New Delhi, 1948, pl. LXVI.

[19] Ramachandran, T.N., Kirātārjunīya, *JISOA*, Vol. XXVIII, p. 22; Sivaramamurti, C., *Indian Sculpture*, p. 72, pl. 22. But opinions, sometimes, do differ on this identification.

[20] *Mahābhārata*, Vanaparva, 47, 13 ; 90, 27.

Arjun's penance for *pāśupata* weapon mentions Nara-Nārāyaṇa, a theme which we find depicted faithfully at Deogarh,[21] near Lalitpur, in Madhya Pradesh. This famous panel of the Gupta period shows that the artists were fully aware of the legends and incidents described in the *Mahābhārata*. According to the Epic,[22] the two brothers performed penance seated on *pīṭhas* or pedestals. At Deogarh, it is significant to note that they are shown seated on pedestals.

The story of Arjuna's penance to obtain the *pāśupata* weapon from Lord Śiva seems to have gained popularity during the Gupta period as its depiction in sculptures became a common feature throughout the country.[23] It continued during the subsequent periods. The Indian Museum Calcutta has three Gupta period pillar fragments from Candimau, Rajaona, in Bihar, showing this story in sculptured panels.[24]

The post-Gupta sculptures in India also depict some of the well known *Mahābhārata* scenes. Scenes from Kṛṣṇa's life, depicted on the Badami fort-gates, are assignable to *c.* 600 A.D. Kṛṣṇa raising the mountain Govardhana, another popular theme of the epic, has been carved quite realistically at Mahābalīpuram, near Madras. Yet another panel at Mahābalīpuram shows Kṛṣṇa milking the cow. These sculptures are assigned to the Pallava period, 7th century A.D.[25]

MAHĀBHĀRATA THEME IN PALLAVA ART

The fact that some of the rock-cut temples of the Pallava period at Mahābalīpuram have been named after the Pāṇḍava brothers and Draupadī shows the popularity of the *Mahābhārata* in south India.[26] This site also has one of the most gigantic sculptured panels, carved on a single rock, showing

[21]Ramchandrana, T.N., "Fresh light on the Deogarh relief of Nara-Narayana", *I.H.Q.*, Vol. XXVII, nos. 191-96

[22]*Mahābhārata*, Śāntiparva, 344, 44.

[23]Ramachandrana, T.N., 1950-51, *op. cit.*, pp. 1-110

[24]*Ibid.*

[25]*Ibid.*, p. 3, pl. 1 a-c.

[26]Srinivasana, K.R., *Cave Temples of the Pallavas*, New Delhi, 1964.

Arjuna's penance.[27] The carving "unique and unlike any other ancient monument in India" has been a matter of controversy for a long time. It has been interpreted variously. However, T.N. Ramachandran has convincingly shown[28] that the panel shows nothing else but 'penance of Arjuna' on the top of the Indrakilā hill in front of which Gaṅgā flowed and where Śiva visited Arjuna and awarded him *pāśupatāstra*. The carving is assigned to 8th cent. A.D.

The fight between Kirāta and Arjuna occurs again on the *vimāna* of the temple of Svarnajvaleśvara at Bhuvaneśvara, Orissa, datable to *c.* 7th century A.D.[29] The plastic rendering is obviously after the Mahābhārata version as the Kirāta appears in the scene in the company of his consort, viz., Pārvatī clad in the dress of a huntress.

MAHĀBHĀRATA THEME IN MEDIEVAL PERIOD

In south India the theme seems to have gained much popularity as it occurs again and again. An inscribed pillar from Vijayavada district, Andhra Pradesh, now in the Government Museum, Madras, depicts the story in ten panels carved on all the four sides.[30] On the basis of the Telugu inscription, as well as on stylistic grounds, it is assigned to *c.* 9th cent. A.D.

At Thanjavur the story of Arjuna's penance is shown on a panel (8′×5½′) now fixed on the right side of the second gopuram of the Bṛhadīśvara temple.[31] Interestingly enough, there are two inscriptions of Rājendra Coḷa I (1012-1044 A.D.) which refer to an image of 'Kirātārjunadeva'.[32] The place also provided us with a copper image (1 metre) of Lord Śiva's Kirātārjunamūrti. It is four-armed and is assigned to *c.* 11th cent. A.D. According to Krishna Sastri, it is the same image which is referred to in two early inscriptions.[33] Thus, the occurrence of the story in stone carving, inscriptions and

[27] Ramachandran, *op. cit.*, pp. 58-59, pl. V.
[28] *Ibid.*
[29] *Ibid.*, pp. 26-35.
[30] *Ibid.*, pp. 22-26, pl. II.
[31] *Ibid.*, p. 100, pl. VIII.
[32] Ramachandran, *op. cit.*, p. 97.
[33] Krishna Sastri, *South Indian Images*, p. 143, *f.n.* 1.

copper-bronze images shows how popular this Mahābhārata story was in this part of the country.

The Paśupateśvara temple at Tiruvetkalam, South Arcot, is not only named after the story contained in the *Mahābhārata* but also provides us with metal images of Śiva as Kirāta, of Umā and of Arjuna.[34] The fact that here in this temple Arjuna found a place of worship, is enough to show that his position was elevated. In this unique bronze image he is carrying two quivers at his back and is standing in '*añjalimudrā*.' While the Śiva image is assigned to 9th cent. A.D., the other two, of Umā and Arjuna, are dated to 11th cent. A.D.[35]

The temples at Halebid, Mysore, depicts not only the famous Kirātārjunīya theme in its sculptural panels but also the scenes of combat based on the Mahābhārata stories.[36] In fact, war scenes, full of movement of men, elephants, horses, chariots, etc., make a beautiful theme to carve on the *vimāna* of the temples at Halebid, Somnathpur and Belur. These are datable to *c.* 12th century A.D. These examples prove that the Mahābhārata themes were quite popular in Karnataka region also.

Kirātārjuna theme, the most favourite of all the Mahābhārata themes met with among the south Indian sculptures, find depiction at Srīśailam, Pushpagiri, Yaganti, Andhra Pradesh (16th century A.D.) and Sankaridurgam and Krishnapuram in Tamil Nadu (17th century A.D.).[37] Though there are minor differences in their depiction, yet they attest to the wide popularity of this theme in Andhra Pradesh and Tamil Nadu.

Wall paintings, too, depict Mahābhārata themes. The famous Lepākshī temple in Andhra Pradesh has a panel showing Arjuna marrying Draupadī, Arjuna's penance, and Arjuna

[34]Ramchandran, *op. cit.*, p. 90, pl. VII, and IX b.

[35]*Ibid* It will be of interest to note that Tiruvetakalam preserves the story of 'Arjuna's feud with Kirāta' in human memory through an annual local festival. It shows the mock-fight between several men dressed as hunters and a man dressed as Arjuna.

[36]From the albums of the Archaeological Survey of India, New Delhi. These albums of Halebid, Somnathpur and Belur, contain photographs of several scenes based on the Mahābhārata story. Among them one can see Bhīṣma lying on a bed of arrows (negative no. 1000/1955).

[37]Ramachandran, *op. cit.*

obtaining *Pāśupatāstra* from Śiva, etc.[38]. T.N. Ramachandran is of the opinion that the depiction of Kirātārjuna theme at Lepākshī is based on the *Mahābhārata*.[39] These paintings are datable to 16th century A.D. In them the Vijayanagara painters are at their best.

Mattancheri Palace at Cochin also contains paintings based on the theme of Śiva as hunter giving away *Pāśupatāstra* to Arjuna. It is on the south wall of chamber no. 2.[40] These are datable to *c.* 17th century A.D.

Kalamkārī temple-hangings from Andhra Pradesh also depict various stories of the *Mahābhārata.*

From 16th century onwards, the *Mahābhārata* provides the most rich source of themes for miniature paintings. The most famous of these are the paintings of *Razmanāmā* (Persian translation of the *Mahābhārata*) of the Mughal period.[41] Several sets of *Razmanāmā* paintings exist in different museums of the world.

Themes like Nala-Damayantī, Rukmiṇī-Haraṇa, etc., which are part of the *Mahābhārata*, occur again and again in Rajasthānī[42] and Pahārī[43] paintings of 17th, 18th and 19th centuries A.D. showing that the epic sustained the interest of the painters as well as of the patrons through the centuries.

CONCLUSIONS

The foregoing clearly shows that on the one hand there is absolutely no depiction of the Mahābhārata theme or personage

[38]Ramachandran, *op. cit.*

[39]*Ibid.*, p. 53, pl. IV.

[40]*Ibid.*, p. 113.

[41]Hendley, *Memorials of the Jeypore Exhibition, 1883*, Vol. IV., *Razmanāmā*. This manuscript was completed in 1588 A.D. Baroda Museum, National Museum, etc., also possess some leaves from other *Razmanāmā* sets of the Mughal School.

[42]Sharma, O.P., *Indian Miniature Paintings*, Tokyo, 1973, pl. 20. One of the paintings shows the marriage of Arjuna with Subhadrā. Recently, an illustrated copy of the Āraṇyaka parva of the *Mahābhārata* has been noticed at the Asiatic Society of Bombay. See, Karl Khandalvala and Moti Chandra, *An illustrated Araṇyaka Parvan in the Asiatic Society of Bombay*, Bombay, 1974.

[43]Goswamy, B.N., *Pahārī Paintings of the Nala-Damayantī Theme*, New Delhi, 1975.

in any period of history before the Śunga period, i.e., the 2nd century B.C., and on the other, it was only from the Gupta period onwards, i.e., from the 4th century A.D. onwards, that we really start getting the depiction of scenes of the Mahābhārata theme in Indian art. Before the Gupta period, Indian art depicted only some Mahābhārata personages.

AHĀBHĀRATA AND EPIGRAPHY

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are very few inscriptions which give the date of the *rata.* However, we come across at least two inscrip-ch throw light on the date of the Great Battle.

/.B. Kotle brought to our notice the Hisse-Borala n of Vākāṭaka king Devasena, of the 5th Cent. A.D., cords the construction of Sudarśana Lake near Washim Vatsagulma in Akola District of Maharashtra). The n records the date of the construction of the lake as

ाद्धम् तस्य वृत्तस्य व्रा २० सप्त [पंयुत्तरासु······]

Kotle interprets it : "(in the year) 380 when the Seven e., the constellation of Ursa Major) were in the asterism having progressed upto 1/6th part of it (or for six years, 0th part of 360, the total number of degrees."[1] Dr. as drawn our attention to the two verses of *Bṛhatsaṁ-* cording to which Seven Sages were in *Maghānakṣatra* ng Yudhiṣṭhira was ruling over the earth and the period king being 2526 years before the commencement of the a and they remain in each *nakṣatra* for a period of one 1 years. Dr. Kotle suggests that the Seven Sages were *rā-phālguni nakṣatra* during Yudhiṣṭhira year 201 to 300 l again be during 2901 to 3000. To find out the corres-g Śaka year, Dr. Kotle deducts 2526 years from Yudhiṣ-year, showing that during Śaka year 374-474, the Seven were in the *Uttarā*.

Mirashi Felicitation Volume, p. 381

Dr. G.S. Ghai and S. Sankaranarayanan commenting on the date of this inscription say :[3] "It could not have been the Kali Era of 3101 B.C. for Kali Era corresponding to Śaka 380 would be 3559 (3101+380+78). We may, therefore, suggest that it may be the Yudhiṣṭhira Era". The learned collaborators of the Note on the date of this inscription have laboured to prove that the Śaka era 380 referred to in the inscription is not the Śālivāhana Śaka of 78 A.D. but Vikrama Śaka of 57 B.C. which, according to them, gives the date of the king Devasena of Vākāṭaka dynasty. According to their calculations Yudhiṣṭhira ascended the throne in the pre-Vikrama-Śaka year 2512 and the Yudhiṣṭhira year for the Śālivāhana Śaka year 380 would be 3027 (2512+57+380+78). Further, the authors of the Note add, "calculated from the movement of the Seven Sages, the author of the inscription had in mind the Parīkṣita year 2991 while giving the position of the Sages remaining in *Uttarā (phālgunī) nakṣtra*. In other words, he had followed the Purāṇic tradition in giving the position of the Sages."

As a matter of fact, neither there is mention of Bhārata War nor Yudhiṣṭhira Era in the Hisse-Borala inscription. The whole calculation of Dr. Kotle or Dr. G.S. Ghai and S. Sankaradarayanan is based on the interpretation of the reference of Varāhamihira's statement of giving the date of Yudhiṣṭhira in terms of Śaka Era which is a subject of controversy among scholars and definitely under our question. These scholars have taken for granted the statement of Vārāhamihira. Further, it may be asked why not the word उत्तरान् be interpreted to mean उत्तराषाढ़ instead of उत्तरा फाल्गुनी. The difference between the two *Uttarās* is that of nine *nakṣatras*, i.e., about 900 years for the movement of Seven Sages which calculated from 3137 B.C. (the date of Bhārata War according to our calculation) as Seven Sages being in *Maghā* can give उत्तराषाढ़ in the fifth century A.D., i.e., the date of Hisse-Borala inscription. As a matter of fact too much reliance has been made on the reading *uttarāsu* of the inscription to interpret it to cannote *Uttarā-phālgunī*. The inscription, if carefully read, does not warrant such an interpretation.

A definite mention of the date of Mahābhārata War in the

[3] *Epigraphia Indica*, Vol. XXXVII, Pt. I, p. 6.

early inscriptions is in the famous Aihoḷe inscription of Pulakeśin II of of Western Cālukya dynasty. The relevant verses are as follows[4] :

त्रिंशत्सु त्रिसहस्रेषु भारताह्वादितः
सप्ताब्दशतयुक्तेषु गतेष्वब्देषु पञ्चसु
पञ्चाशत्सु कलौकाले षट्सु पञ्चशतासु च
समासु समतीतासु शकानामपि भूभुजाम् ॥ Verses 33-34

The date of this inscription according to these verses would be : त्रिंशत्सु (30) + त्रिसहस्रेषु (3000) + सप्ताब्द शतयुक्तेषु (700)+ गतेष्वब्देषु पञ्चसु (5) = 30+3000+700+5 = 3735 years after the Kali Era (calculated after the Bhārata War भारताह्वादितः) and पञ्चाशत्सु (50) + षट्सु (6) + पञ्चाशतसु (500) = 50 + 6+500 = 556 after Śaka Era. The era of the Śaka king is definitely the Śālivāhana Śaka of 78 A.D. which gives the date of this inscription as 556+78 = 634 A.D. This date of the inscription is not doubted. Dr. fleet who edited the inscription in its revised form says : "that Śaka 556 (A.D. 634—5) is the date intended in the present inscription, there can be no doubt."[5] Following Dr. Fleet, many a time this inscription has been edited. Dr. Kielhorn[6] edited it for *Epigraphia Indica* and he has followed the date of Dr. Fleet. If the date of this inscription in Śaka Era is taken to be correct, there should be no reason to doubt the other date simultaneously given in Kali Era (which is calculated after the Bhārata War भारतावादितः) which date comes to (3735—634) = 3101 B.C.

'Kalau Kale'

The term '*Kalau Kale*' points to the fact that this inscription was intended also to be simultaneously dated in Kali Era alongwith the Śaka one. The term '*Bhāratāhavāditaḥ*' shows that for a period long removed in history, the author of the inscription does not forget the Bhārata War and it echoes in his mind that the War (भारताह्व) occurred during the same time. The starting of Kali Era after the Mahābhārata war has found numerous echoes in the literary tradition. It may not be out of place to quote a few :

[4]*Aihole Inscription of Pulakeśin* II, verses 33-34.
[5]*The Indian Antiquary*, Vol. VIII, p. 240.
[6]*Epigraphia Indica*, Vol. VI, pp. 1 ff.

अन्तरे चैव सम्प्राप्ते कलिद्वापरयोरभूत् ।
स्यमन्तपञ्चके युद्धं कुरुपाण्डव सेनयो ॥[7]

This verse of the *Mahābhārata* leaves no doubt that the famous battle between the Kuru and Pāṇḍava armies was fought in the transitional period of *Drāpara* and *Kali.* Viṣṇu-Purāṇa makes it clear :

यदैव भगवान्विष्णोरंशो यातो द्विवं द्विज ।
वसुदेव कुलाद्भूतस्तदैवात्रगत: कलि: ॥
यावत्सपादपद्माभ्यां पस्पर्शानं वसुन्धरां ।
तावत्पृथिवी परिष्वंगे समर्थो नाभवत्कलि: ॥[8]

The references to Mahābhārata War—Kali Era tradition are numerous, and are also recorded throughout our literary tradition. In the works of Mathematics and Astronomy, if Bhārata War—Kali Era are mentioned, there is no confusion. They all point out to 3101 B.C. as starting point of Kali Era. It may be noted here that this is a Brāhmanical tradition. Non-Brāhmanical astronomical work like *Bṛhatsaṁhitā* which are oft-quoted to suit the convenience are confusing and contradictory. If astronomical and mathematical works become the basis of our calculation, a line from famous astronomer-mathematician Aryabhaṭṭa is quoted below from his *Siddhānta-Śiromaṇi.* The author gives the difference of Kali and Śaka eras as 3179 years. The relevant line is as follows :

नन्दाद्रीन्दुगुणास्तया शकनृपस्यान्ते कलेर्वत्सरा ।

नन्द (9) अद्रि (7) इन्दु (1) गुणा: (3) = 3179. This gives the initial date of the Kali Era (3179−78) = 3101 B.C.

The Kali Era started thirty-six years after the actual battle of Mahābhārata as is testified by the internal evidence of the *Mahābhārata.*

षट्त्रिंशेत्वथ संप्राप्ते वर्षे कौरवनन्दन ।
ददर्श विपरीतानि निमित्तानि युधिष्ठिर: ॥[9]

Afterward Arjuna gives Yudhiṣṭhira the news of passing away of Lord Kṛṣṇa. This is traditionally the starting point of the

[7] *Mahābhārata*, (Poona), Ādi. 2-13.
[8] *Viṣṇu Purāṇa* (Gita Press), pp. 355-56.
[9] *Mahābhārata* (Mausala parva, 2/2/)

Kali Era.[10] Thus, according to this tradition, the date of Mahābhārata War comes to 3101 B.C.+36 years = 3137 B.C.

As regards the historicity of Mahābhārata which is outside the scope of the present article, the sceptics may be asked to offer suitable explanations to the epigraphical echoes of the various events of Mahābhārata, and also if at all, the epigraphical references, for what they are worth, have any authenticity so far as historical evidences are concerned. However, it is a fact that we do not have any inscription of a very early date containing the Mahābhārata theme. The earliest inscription is of the Gupta period, *i.e.*, 5th century A.D.

[10]*Viṣṇu Purāṇa* 4.4. 31-32; *Matsya Purāṇa* 271. 51-52, *Vāyu Purāṇa*. 2.37. 422-23; *Bhāgvata Purāṇa* 12(2)-33.

H.D. Sankalia

This is an age-old problem, but the present controversy was touched off when Dr. D.C. Sircar said in an interview that the Mahābhārata war, as described in the epic, is a myth and that its real date was unknown even in the past ; hence, later writers assigned various dates to the event. He also said that large armies could never have taken part in it.

Such unpalatable views about an event which every Indian, ignorant or educated, is inclined to regard as a fact, were soon challenged by Dr. Datta and Dr. Phadke of Kurukshetra University. I too had expressed my views in an article, extracts from which were circulated by the UNI. These as well as the earlier statements of Dr. Sircar were questioned by Dr. V.V. Mirashi of Nagpur.

Dr. Mirashi's views on all these questions are full of contradictions. He admits that the *Mahābhārata* has undergone several inflations. The questions then are, how and when ? As pointed out here and in my book on the Rāmāyaṇa (*Rāmāyaṇa : Myth or Reality*), archaeology provides the conclusive evidence of the *Mahābhārata*. Among the peoples and countries from whom the Pāṇḍavas extracted tribute in their *Digvijaya* (world conquest), Rome is mentioned as "*Romā*", along with Antiochus of Syria (*Antakhi*) and the Greeks (*Yavanas*). Now this reference cannot apply to pre-Imperial Rome, not even the 3rd century B.C., because then Aśoka would certainly have mentioned it, as he mentioned the kings of Egypt and Syria. Instead, it refers to the Rome of the emperors, particularly after Augustus (A.D. 54) as has now been proved by archaeology.

Again, this Parva depicts the political geography of India, as known in the 2nd-3rd century A.D. If so, would it be wrong to say that the critical edition of *Mahābhārata* is of the 4th century A.D. ?

Regarding the *Ṛg Veda*, there is no unanimity about its date. It is variously dated between 2500 B.C. and 1000 B.C. (B.K. Ghosh, *Vedic Age*, p. 229). If it really mentions iron (*kṛṣṇāyasa*), then it, or the section which mentions it, could be really as late as 900 B.C. According to Dr. R.N. Dandekar, (the famous Vedic scholar), *ayasa* in the *Ṛg Veda* means only copper, and not iron.

The pity is that Dr. Mirashi, though one of our greatest epigraphists, is not at all conversant with Indian and West Asiatic prehistoric archaeology. So he loves to stick to his 50-year old views. There is nothing strange in this. This has happened before, when well-known scholars and even geologists of the 19th century refused to accept the antiquity of Man, as going back to lakhs of years.

Dr. Mirashi is, therefore, unable to appreciate what the implications of the discoveries made in India during the last 25 years are. He only harps on the genuineness and great antiquity of the Bhārata War. The very source—early Vedic literature—on which he relies is not so old. This literature nowhere refers to the war, as claimed by him. So instead of challenging our views, he should produce incontrovertible evidence.

Dr. V.N. Datta and Dr. H.A. Phadke assert that the tradition is authentic and the great battle took place after the composition of the *Ṛg Veda,* and before the composition of the *Śaṅkhāyana Śrauta Sūtra* in *c.* 600 B.C. It is because of this long, deep rooted and persistent tradition that the wholel and of Haryana still echoes to the din and fury of the battle. They (as well as Dr. Mirashi) seem to agree with Dr. Sircar in disregarding the oft-repeated astronomical evidence. I have also pointed out in detail, in an earlier article, how unreliable this evidence is.

The other two points which these scholars stress can be easily accounted for. The *Ṛg Veda* was not composed earlier than 1000 B.C. and the war could have been fought between this date and 600 B C.

In fact, this is our view as well, which is further elucidated by a critical study of the *Mahābhārata,* and a fuller appreciation of the recent archaeological evidence. Thus we are able to project a fairly accurate picture of the Mahābhārata era, the nature of the battle and its probable date.

Archaeological discoveries in India since 1947 have clearly and indubitably proved that the whole country was in the chalcolithic stage or age from c. 3000 B.C. until 1000 B.C. This date might have to be lowered if we accept the consensus of the C-14 dates which fall between 800 and 400 B.C. That is, the knowledge and regular use of iron were unknown before this

DIFFERING VIEWS

D.C. Sircar

(In an interview with the UNI, Dr. D.C. Sircar expressed that the Mahābhārata war was not a very big event ; in a sense, it is a 'myth'. Several leading Newspapers published the UNI report on the 15th September 1975. His contentions are summed up as under).

According to Dr. Sircar the so-called Bhārata war must have been originally a petty family or tribal fued which formed the theme of a battle song. This war-song was gradually embellished and magnified through the centuries by different poets and minstrels, so much so that the core can hardly be made out.

To say that the Bhārata war was fought in the fourth, third or second millennium B.C. is incompatiable with the usually accepted views regarding the protohistoric Harappan or Indus Valley civilization and the coming of the Aryans into India by about the middle of the second millennium B.C.

The evidence relating to the war reveals two interesting facts : in the first place, even in ancient India people were not sure as to when exactly the war might have occurred, and, secondly, any reference to it is conspicuous by its absence in the Later Vedic literature – the main stay of popular Hinduism consisting of 18 purāṇas (old stories) namely, Vishṇu, Nāradiyam, Bhāgavata, Garuḍa, Padma, Mastya, Kūrma, Vārāha, Śiva Liṅga, Skanda, Agni, Brahmā, Brahmāṇḍa, Brahmavarta, Mārkeṇḍeya, Bhaviṣya and Vāmana. However, Kurukshetra has been repeatedly mentioned in the earliest works on Indian literature.

When the popularity of the story of the Bhārata war

developed considerably, an eagerness was exhibited by some people to assign a date to this event and this led to the growth of the diversity of tradition.

There has never been one opinion regarding the date of the war among historians and astronomers and different dates have been arrived at by different scholars. This confirms the belief that the people had originally little knowledge about the Bhārata war, but they entertained various ideas about its date only after its story had attained considerable popularity with the evolution of the *Mahābhārata* as an epic.

According to Purāṇic lists, Udayana, contemporary of the Buddha, was the 25th in descent from Parīkṣit. If we do not totally discard this list, we have to face the inconvenient position where ten generations of priests covered the same period as twenty-five generations of kings.

Further, the final form of the story represents the war as fought primarily between Kauravas and Pāṇḍavas, though it is often supposed that it was really a struggle between the Kurus and the Pañcālas. If the latter was the case, then no reliance can be placed on the tradition associating the war with the birth of Parīkṣit, which would appear to have been introduced into the story long after the event.

As regards the magnitude of the war as described in the *Mahābhārata*, we have to consider whether the connexion of the rulers of the eastern and southern borders of India as active participants in the war fought in the eastern Panjab can be much earlier than the 4th century B.C For example, King Bhagadatta of Prāgjyotiṣa or Assam is an important figure in the story of the war, although this kingdom and its rulers are conspicuous by their absence in the Vedic literature.

After due consideration of all facts it has to be concluded that all stories of earlier "*digvijayas*" and empire building described in the epics and the Purānas have to be regarded as belonging to the domain of mythology and folklore and not of history.

instead of regarding all this knowledge as belonging to one period.

As far as the C-14 dates are concerned they are quite consistent, and except one date, all the rest, including those from Hastināpura, where the samples were carefully collected for the very purpose of dating accurately the Painted Grey Ware deposits, fall between 600 B.C. and 400 B.C.

Verily the *Mahābhārata* in its present form—even much of the Critical Edition—is a myth, but it does contain a kernel of truth which archaeology alone can reveal.

Hence the only way to understand this problem is to conduct a large-scale excavation at Hastināpura, because so far, all the other sites of the Painted Grey Ware have been found to be small and shallow.

What is true of the present *Mahābhārata*, even the Critical Edition, is true of the Critical Edition of the *Rāmāyaṇa*. I have already pointed out in a small book *Rāmāyaṇa, Myth or Reality* how all the Kāṇḍas, and not only the Bāla and the Uttara Kāṇḍas have been interpolated, after the first century B.C.—A.D., and how Ayodhyā Kāṇḍa reflects the impact of the Roman trade and contact on the Indian society, particularly in the *free* use of wine on all occasions, whether it be right or proper to use it or not. This is an instance of hyper or Higher Criticism (for otherwise wine or *surā* is known from Early Vedic times).

To this I would add one more. In the Kiṣkidandhā Kāṇḍa, Sugrīva gives instructions to four different Vānara Chiefs how to search for Sītā in four different directions of the world (as known to him). Acting on these instructions the Eastern Contingent goes as far as Yavadvīpa and Suvarṇadvīpa (Java-Sumatra or Indonesia), besides so many other places in Eastern India; in the west to Marīchi *pattana*, Surāṣṭra and the Western Ocean; in the South are mentioned besides the river Godāvarī, Kṛṣṇā, Varadā, Kāverī, and Tāmraparṇī, 'the Pāṇḍyas, Puṇḍras, Coḷas, Keralas' the Malaya, Mahendra near the Sea, Agasti *āśrama*, and Godāvarī and Daṇḍakāraṇya.

Now it is on this interpolated and highly inflated passages that all the earlier scholars and Dr. Mirashi even in his latest article in the *Journal of the Oriental Institute*, Vol XXIV (1975), pp. 375-68 relied for locating the Godāvāri, Daṇḍakāraṇya.

and finally Laṅkā in Ceylon. This list, as interpolated, may not be later than the 4th century A.D , because unlike the *Mahābhārata*, the Hūṇas are not mentioned, but the lists show all disregard for directions—and this is true of all the versions as may be seen from a perusal of the lists given by Ananda Guruge (*The Society of the Rāmayaṇa*, pp. 73-76) and there are repetitions. For instance, the Godāvarī and Daṇḍakāraṇya are mentioned with Kalinga, among the places in the East and also in the South. Right from Pargiter to Mirashi no attention has been paid to these ill-digested information interpolated in the Kiṣkindhā Kāṇḍa of the *Rāmāyaṇa*, with the result that it is now difficult to convince even sober scholars the total uncriticalness of the entire approach.

As opposed to this, I have now found epigraphical evidence to prove the antiquity of the Goṇḍs in Madhya Pradesh as early as the 3rd-4th century A.D. and the reference to Daṇḍakāranya near Vāstra-*deśa* (present Bastar) and the "lord of Western Laṅkā," as far back as the 10th century A.D. Mirashi's article again is full of self contradictions. To give an example, he says that the "Rāmāyaṇa is Mahākāvya. The statements and descriptions in it are full of poetic fancy. They cannot be taken literally" (*Ibid*, pp. 365 and 36[7]). If so, then why try to locate the Vindhyas in south India, because in a fanciful description, it is mentioned near Mahendra mountain in south India ? Is there any other instance where Vindhya is so placed? And even if such an instance is found it will be an imaginary one.

No. Such a point of view will not help We cannot or should not disregard any ethnographical, botanical or archaeological evidence that our epics contain, as do Mirashi and other scholars of the Older School of Thought. That way no progress in our thinking is possible ! The botanical as well as the archaeological evidences, viz., of the distribution of *śāla* forests, the use of wine by Sītā and Bhāradvāja, Mirashi regards as "flimsy". On the contrary these are not only original but also "topical", and however a poet might write, still he always belongs to certain "time and clime", and reflections or echoes of these are bound to be found in any writer's work (just as we, Dr. Mirashi and myself, belong to different generations of the 20th century) and naturally we think according to our training and aptitude.

period. Further, there were small, regional and sub-regional cultures outside the large area of the Indus Civilisation, each having a distinctive pottery, but dependent on agriculture, stock-breeding and hunting. All over India beef, mutton and venison, besides grains, such as wheat, barley and rice, formed the staple food of the inhabitants. The ox-drawn cart, with a solid wheel, was the main vehicle of transport. The use of the horse was not yet common or widely documented. Probably, it was yoked to chariots, but not ridden.

The picture changes in about 1000 B.C. or slightly later, when all over northern India, from Ropar to Ujjain, and Jodhpur to Janakpur on the Nepal-Bihar border, we find a distinctive pottery, known as the Painted Grey Ware (besides a black-and-red ware). This is invariably associated with iron, and Dr. G.G. Majumdar's study at the Deccan College has proved beyond a shadow of doubt that it could not have been produced without iron technology. (*see Appendices A and B for fresh archaeological evidence—Eds.*) We might also conjecture that such a revolutionary change—from copper/bronze to iron—could have been regarded then or soon after as the end of the *Drāparayuga* and the onset of the Kaliyuga.

This more or less uniform material culture in northern India was mainly dependent on agriculture and stock breeding, so much so that the cow had become a unit of exchange and wealth, and a ruler's wealth was calculated on the basis of the number of cows he possessed. Naturally, wars were waged for these large herds, as for instance between King Virāṭa (comprising parts of Jaipur district in Rajasthan) and the Kauravas, when the Pāṇḍavas were in exile.

Evidence from the Hastināpur excavation shows that the horse was now known and even used as an item of food. It was probably regularly yoked to chariots. However, we badly need this evidence from other Painted Grey Ware sites.

It is this cultural unity that is probably reflected in the alliances we find so often mentioned in the *Mahābhārata* between distant Gandhāra (NFW), Sibi, Sindhu, Sauvīra (Sindh), Magadha (Bihar) and Vidarbha with the rulers of Kuru-Pañcāla (the present State of Delhi). So when a family feud broke out between the members of the Kuru family, other rulers were naturally drawn in.

Still we must not forget the true character of the battle of Kurukshetra. Right from the beginning, from the blowing of conch-shells as trumpets, to the very end, the killing of Duryodhana by Bhīma and the battle of *Brahmāstras* between Arjuna and Aśvatthāma, it was a contest between two individuals whose personal bravery and skill in handling a mace, or discharging arrows, or even managing a chariot, was everything. This was truly a Heroic Age, like that described by Homer. Large armies, called "*Akṣauhiṇīs*", consisting of infantry, cavalry and elephants had no place in these conflicts. Not a single instance of a cavalry charge or a pitched infantry battle is known or described. Still small corps of foot-soldiers might have been there, but there cannot be more than few hundreds, and cannot be thought of in thousands. As pointed out elsewhere, it was Alexander who showed the Indians how efficient cavalry was against the slow-moving elephants.

However, such a realistic picture becomes confusing when the commentators on the *Mahābhārata* describe the effects of the various *astras*—missiles discharged with the help of *mantras*—or when in the Sabhā Parva, the four Pāndava brothers—Arjuna, Bhīma, Nakula and Sahadeva—start on a world conquest (*dig-vijaya*) with large armies in four different directions, defeat single-handed and exact tribute from the Syrians, Romans and Greeks, the kings of Karahad, the Coḷas, the Pāndyas and Kerala in the south, and the Hūnas and others in the West !

One may say the same thing about the subsequent rejoinder of Dr. Pandey, where he draws our attention to the lists of *janapadas* mentioned in the Bhīsma Parva of the *Mahābhārata* and the unreliability of the C-14 dates. If any one cares to examine the lists of rivers, mountains and *janapadas* a little critically, one will have to conclude that these lists must have been added to the *Mahābhārata* and other *Purāṇas*, after the 5th and even the 7th century A.D.

Among the *janapadas* we find mention of the Parasikas and Hūnas, besides the Ābhīras, Pahlavas and many others. Now it is well-known that the Hūnas did not enter India before the 5th century A.D. In fact, the very completenesss of these lists should make us think about their real age. Frankly, here is an excellent opportunity for our historians to measure the growth in our knowledge of the geography of India from age to age,

A. Ghosh

At the outset I must make it clear that I have no views to express here on the authenticity or otherwise of the *Mahābhārata* and *Rāmāyaṇa* stories or of the nuclei thereof. The sole object of this note is to examine a limited number of points contained in Professor B.B. Lal's Presidential Address to the Eighth Annual Conference of the Indian Archaeological Society held at Chandigarh from December 22 to 24, 1975. During recent months I have also seen some of his observations on allied matters as published in the press, but as nothing can express his views more authentically than the address, I ignore the press-reports and confine myself to the address itself, duplicated copies of which were distributed at the conference. As a corollary, I cannot naturally take into cognizance here any deletions, additions and alterations that the address may undergo when it is published elsewhere.*

First, Lal's argument : 'If we accept the identity of these (present-day) sites (*scil.* Hastināpura, Kurukṣetra, Mathurā, Barnawa, Panipat, Indrapat, Tilpat, Ahicchatrā, etc.) with their namesakes in the epics, then we are morally bound to accept the evidence yielded by these sites . . .' That evidence comes in the shape of an identical Painted Grey Ware (PGW) assemblage found in the *lowest* levels of these sites. (The ochre-coloured pottery (OCP) of Hastināpura has been ignored by Lal in this statement, but that is inconsequential in this context.) And, proceeds Lal : as there is literary evidence that Nicakṣu abandoned Hastināpura after it had been carried away by the Gaṅgā and dwelt in Kauśāmbī, where excavations show a continuity of the culture that prevailed at Hastināpura at the time of the flood, circumstantial evidence is fairly strong to make us think that there did exist some basis for the *Mahābhārata* story.

The argument is much the same as was adduced by Lal in

*Being published in *Puratattva* No. 8 (1976) However, we suggest to the readers to see Prof. Lal's note elsewhere in this Volume since it contains his latest views on the subject. They are equally requested to see the Introduction and Epilogue since here also the views of Prof. Lal have been quoted. (Eds.)

his report on the Hastināpura excavation.[1] It has three parts : (1) The identity of the mentioned places with their ancient namesakes; (2) the identity of the earliest material culture, viz. the PGW culture, at the lowest level of all these places; and (3) the shifting of that culture to Kauśāmbī. About the last part of the argument, the evidence, I must say, is somewhat confused for a variety of reasons which need not be gone into here. But as Lal himself pointed out earlier,[2] the levels of Kauśāmbī prior to those with the Northern Black Polished Ware (NBPW) contained grey ware with at least one painted specimen. 'At least' one painted specimen of grey ware (which can at best be stretched to mean half-a-dozen specimens at the most) may not justify a belief in the wholesale shifting of a culture from one place to another, particularly as at Hastināpura itself a sort of grey ware with painting existed in the succeeding NBPW levels.[3] Let not the evidence of a limited number of grey sherds, even more of a limited number of them with painting, be extended too far. Rightly did Lal exclude Kauśāmbī from his distribution-map and -list of the PGW.[4]

No person in his senses will doubt the first two parts of Lal's argument, viz. the identity of the concerned places with their ancient counterparts and of the earliest culture represented there (ignoring the ochre-coloured pottery of Hastināpura). But the identity of cultures at these places did not end with the PGW period, for all these places continued to be in occupation in the next (NBPW) period.[5] If, for argument's sake, we suppose that the *Mahābhārata* story was *created* in this latter (NBPW) period, then the likelihood is that these very places, none very far from Hastināpura, would find mention in the story. The occurrence of an earlier culture at these places would in that case be purely adventitious and lose all significance for purposes of the story. I do not say that this was really the case, but the possibility connot be overlooked. In

[1]B.B. Lal, 'Excavation at Hastināpura, etc.', *Ancient India*, 10 and 11, 1954 and 1955, pp. 4-151.

[2]*Ibid.*, p. 150.

[3]*Ibid.*, p. 53.

[4]*Ibid.*, p 4, fig. 1, and pp. 138-43.

[5]*Ibid.*, p. 4, fig. 1, and pp. 143 46

view of this, the C-14 dates of the PGW and the application of MASCA corrections to them (a matter which looms large in Lal's address) would be irrelevant to the supposed date of the supposed event, though they would still retain their value to archaeology.

Now we come to Lal's attempt at giving an absolute date to the *Mahābhārata* war on the basis of the duration of the reign-periods of the kings who ruled between the war and Udayana of Kauśāmbī, contemporary of Buddha. Lal has calculated the average reigns of the Muslim rulers of Delhi, and of the Mauryas, the Śuṅgas, the (nebulous) Kāṇvas, the Sātavāhanas (the last four evidently gathered from the Purāṇic lists) and the Guptas ; and taking the average of averages he has arrived at the figure of 13·96 (say 14) years as his final average. It will be readily conceded that for such a purpose only those dynasties of which the king-lists are firmly established should be taken into account. On Mauryan chronology there is difference between the Purāṇic, Buddhist and Jaina sources. Of the Sātavāhanas it may be said that according to some leading historians the Purāṇic list is grossly inflated. Similarly, one cannot be too sure of the succession in the Gupta dynasty after Pūrugupta (or after Skandagupta if he followed and did not precede Pūrugupta). If, as is universally accepted by historians, the Gupta era started in A.D. 319 with Candragupta I, then we have to distribute *circa* 151 years (*circa* A.D. 470 *minus* 319) among six rulers—Candragupta I, Samudragupta, Candragupta II, Kumāragupta I, Skandagupta and Pūrugupta (or Pūrugupta and Skandagupta), getting an average of 25·16 years. After Skandagupta/Pūrugupta, the order of succession is not firm, but if we take Budhagupta (end *circa* A.D. 495) as the limit, there will be four additional rulers according to one interpretation of the epigraphical data (Narasiṁhagupta, Kumāragupta II, Viṣṇugupta and Budhagupta) but only two additional ones (Kumāragupta II and Budhagupta) according to another.[6] In the first case the average would be 17·6 years, which is also Lal's average for the Gupta rulers, and in the second 22·0 years. However, let us not enter into the thicket of chronological controversy here. But attention must be drawn to another

[6] A. Ghosh in *Indian Historical Quarterly*, XIX, 1943, pp. 119-25.

calculation : Basham, taking into account the chronology of many dynasties, has arrived at the average figures of 19 years for the northern dynasties and 20 years for the southern ones.[7] There is thus a substantial variation between Lal's and Basham's averages. This is not to say that one is correct and the other wrong. At the same time, this does show how shaky and undependable such calculations can be, like the judging of the life-span of an archaeological site on the basis of the thickness of deposits at other sites.

Assuming for the present Lal's average of 14 years as correct, can we regard his other data as unassailable ? The number of rulers from Parīkṣit to Udayana is stated by him to be 24. The Purāṇic list of the Kaurava-Paurava dynasty of Hastināpura-Kauśāmbī is as follows : (1) Parīkṣit, (2) Janamejaya, (3) Śatānīka, (4) Aśvamedhadatta, (5) Adhisīmakṛṣṇa, (6) Nicakṣu, (7) Bhūri or Uṣṇa, (8) Citraratha, (9) Śucidratha, (10) Vṛṣṇimat, (11) Suṣena, (12) Sunītha, (13) Ruca, (14) Nṛcakṣuṣ, (15) Sukhībala, (16) Pariplava, (17) Sunaya, (18) Medhāvin, (19) Nṛpañjaya, (20) Durva, (21) Tigmātman, (22) Bṛhadratha, (23) Vasudāna, (24) Śatānika and (25) Udayana.[8] Thus, the Parīkṣit-Udayana (both inclusive) number is 25. The list is continued down by four more generations : (26) Vahīnara, (27) Daṇḍapāṇi, (28) Nirāmitra, and (29) Kṣemaka. It is wound up by the statement that there would be 25 Pauravas (*pañca-viṁśā nṛpā hy ete bhaviṣyāḥ Pūru-vaṁśa-jāḥ*). This discrepancy (between 29 and 25) may perhaps be explained on the assumption that the counting was not from (1) Parīkṣit but from (5) Adhisīmakṛṣṇa, who certainly marks a definite stage in the Purāṇic geneology, as he is said to be 'existing at present' (*sāmpratam yo mahā-yaśāḥ*) ; kings prior to him are referred to as the past ones, and those following him are in the prophetic future tense. His position is the

[7]A.L. Basham, *Studies in Indian History and Culture*, Calcutta, 1964, p. 83.

[8]F.E. Pargiter, *The Purāna Text of the Dynasties of the Kali Age*, London, etc., 1913, pp. 4-6. I need not apologize for following Pargiter's list, for no person before or after him has reconstructed the Purāṇic texts with such meticulous care, and I am certainly incapable of improving upon his reconstruction. But saying this does not involve any acceptance of his theories.

same as that of Divākara of the Aikṣvāka dynasty of Ayodhyā, fourth in descent from Bṛhatkṣaya, the son of Bṛhadbala, killed in the *Mahābhārata* war ; Divākara is also said to be 'seated at present at Ayodhyā' (*yaś ca sāmpratam adhyāste Ayodhyāṁ nagarīṁ nṛpaḥ*).[9] But how can we reconcile these two numbers (29 and 25) with another Purāṇic statement that 'there will be 36 Kauravas' (*Kuravaś c=āpi ṣaṭ-triṁśat*) ?[10] As this statement is in the future tense (*cf. bhaviṣyati* in the preceding lines), it can only refer to the rulers from Adhisīmakṛṣṇa to Kṣemaka, 25 in number in the main list.

It may be my ignorance that I do not know the basis of Lal's statement that the Purāṇas mention that there were 36 kings from Yudhiṣṭhira on the one hand and Candragupta Maurya on the other. The literature is vast, and I may have missed this reference. But if Lal is referring to the passage just now quoted (*Kuravaś c=āpi ṣaṭ-triṁśat*), his statement and any calculations based thereon require serious reconsideration. The Purāṇic reference here is certainly neither to Yudhiṣṭhira nor to Candragupta Maurya but to Adhisīmakṛṣṇa (or at best to Parīkṣit, if we ignore the significant uses of the past, present and future tenses in the list) and to Kṣemaka, the last Kaurava-Paurava king of Kauśāmbī ousted by the Nandas. Important as it is to modern historians, to the authors of the Purāṇas the accession of Candragupta did not mark any significant event. On the other hand, the advent of the Nandas certainly did, as Mahāpadma Nanda was the killer of all Kṣatriyas, including scions of the Lunar and Solar Races, the illustrious Kaurava-Pauravas and the Aikṣvākas (*sarva-kṣatr-āntaka, kṣatra-vināśa-kṛt*). For the first time in traditional history the sacred lands were to be ruled by Śūdras, and this led to the lament : 'thenceforth will kings be of Śūdra origin' (*tataḥ prabhṛti rājāno bhaviṣyāḥ śūdra-yonayaḥ*) !'[11]

Coming back to Lal's argument, we find that he has multiplied 24, his (not firmly-established) number of Parīkṣit-Udayana kings, by 14, his (not indisputable) average year of each reign, thus coming to the figure of 336 years. Adding

[9] *Ibid.*, p. 10.

[10] *Ibid.*, p. 24. Such inherent contradictions in the Purāṇic lists are well-known to all those who use them.

[11] *Ibid.*, p. 25.

this figure to 500 B.C., the rough date of Udayana (*but ignoring the reign-period of Yudhiṣṭhira from after the war to the accession of Parīkṣit*), he arrives at 836 B.C., second half of the ninth century B.C., as the date of the *Mahābhārata* war. The pitfalls in the way have been many, but ignoring them let us ask ourselves : does this date satisfy or even approximate any traditional date of the war ? (The question is important, as nowhere has Lal shown himself to be an utter disbeliever in tradition.) Three such dates are available in the field, all of them well-known and discussed again and again :

(1) The Aihoḷe inscription of Pulakeśin II of the Cāḷukya dynasty places the war in 3102 B.C. by saying that 3735 years had elapsed between the war and the date of the inscription, Śaka year 556=A.D. 634-35. Lal mentions this but does not say that this date was known to Āryabhaṭa in A.D. 499,[12] more than a century before the inscription. But this priority does not add much to antiquity of the tradition. According to Fleet the era that started with 3102 B.C. was used by Indian astronomers till it was superseded by the Śaka era in or before the time of Varāhamihira.

(2) Another school, represented by Vṛddha-Garga, Varāhamihira and Kalhaṇa, places the heroes of the *Mahābhārata* war 653 years after the beginning of the Kali Age and 2526 years before the epoch of the Śaka era (78 A.D.). Even this school thus believes in an epoch of 3102-01 B.C. (2526 *plus* 653 *minus* 78).

(3) A third persistent Purāṇic tradition is that 1050 (*v.l.* 1015) years had elapsed between the birth of Parīkṣit and the coronation of Mahāpadma (*v.l.* Nanda).[14] For all practical purposes the variation between the two readings in the number of years does not mean much : one can overlook the difference of 35 (1050—1015) years when hundreds of years are involved. One may also ignore, for the purpose in view, the difference between the Purāṇic and Buddhist literatures on the date of the Nandas : let us agree to a date of *circa* 350 B.C. as the date of

[12]*Āryabhaṭīya* ed. H. Kern, Leiden, 1874, p. 58.

[13]J.F. Fleet, *Inscriptions of the Early Gupta Kings and their Successors*, Corpus Inscriptionum Indicarum, III, Calcutta, 1888, Introduction, p. 143.

[14]Pargiter, *op. cit.*, p. 143.

Mahāpadma-Nanda and add it to 1050/1015, to come to the date 1400/1365 B.C. as the year of the birth of Parīkṣit, which, according to the *Mahābhārata* story, was almost the same as the date of the war.

It should not be thought for a while that I am pleading for the acceptance of one of these three dates. The first two of the the three will certainly be rejected by archaeologists and historians, as they go against all archaeological and historical knowledge. Nor have I any fascination for the third date. My point is entirely different : which parts of the tradition are we to believe in to the exclusion of the other parts, provided that no part is proved to be utterly wrong or is palpably exaggerative or supernatural ? How far would it be logical to accept the king-lists of the Purāṇas, with all their discrepancies, and base averages of reign-periods on them, and to reject other parts which give variant versions of the number of kings and total number of years that elapsed between two given events ? Without any examination of the involved complexities, what has been done in the present case is to (1) accept a certain number of kings as correct, (2) work out an average reign-period, and (3) create a new date for the (supposed or real) event. How much of it is due to the compulsion of the archaeological data is debatable.

The last point that I shall comment on in this note is Lal's contention that Rāma was later in date than the *Mahābhārata* heroes. He no doubt safeguards all that he has to say by the proviso 'if Rāma was a historical figure living at Ayodhyā', but what follows no doubt indicates the tenor of his belief. The beginning of the sites associated with the *Rāmāyaṇa*, he observes, was later than the beginning of those associated with the *Mahābhārata*, as his and previous excavations have proved the absence of the PGW at the *Rāmāyaṇa* sites, which began with later pottery. This is a welcome, but not unexpected, contribution to the archaeology of the central Gaṅgā valley. But its applicability to the date of the Rāma story is dubious. Literary evidence on the relative chronology of the two epic stories is provided, according to Lal, by a philosophical discussion in the court of king Janaka of Videha recorded in the *Bṛhadāraṇyaka Upaniṣad*, wherein the Pārikṣitas are referred to ; this shows that the Janaka was later than Pārikṣit. But it is well-

known that Janaka was the name of a dynasty and not of an individual ruler, the father-in-law of Rāma.[15] *The Rāmāyaṇa* itself says so. It refers to the family of the Janakas (*Janakānāṁ kule*, 1.67.22) ; the famous bow was worshipped by the Janakas (*Janakair abhipujitām*, 1.67.8). While introducing himself to Daśaratha, the would-be father-in-law of Rāma says that Mithi, one of the progenitors and the son of Nimi, who was the founder of the dynasty, was the first Janaka king (*prathamo Janako rājā*, 1.71.3-4).[16] Lal is not unaware of the existence of a plurality of Janakas when he says that some scholars feel that Janaka referred to in the *Bṛhadāranyaka* episode was not the Janaka of the *Rāmāyaṇa*. But his reply to such scholars is that while the *Upanisad* does not mention in so many words that Janaka was the father-in-law of Rāma, 'do we not know from several other sources that Janaka, the father-in-law of Rāma, was a philosopher-king who greatly rejoiced in such metaphysical discussions ?'

Whatever the 'several other sources' be, my cursory glance through the *Rāmāyaṇa* itself (edition cited in note 16) shows that nowhere is the father-in-law of Rāma referred to as a philosopher-king. He is no doubt called *mahātman* (1.50.8). *dharmātman* (1.67.27), *dharma-vatsala* (1.70 8) *dharma-vid* (2.118.27), etc., but which king does not have such adjectives in Sanskrit literature, unless he belongs to the opposite camp of the heroes ? Janaka also performs at least one *yajña* (1.31.6), but hundreds of other kings are said to have done so. I do find, however, that Daśaratha is called *maharṣi-kalpa* and *rājarṣi*, in addition to *yajvan* and *dharma-para* (1.6.2). But even if the father-in-law of Rāma is said to have been a philosopher-king in some *Rāmāyaṇa* passage which I may have missed, it would not prove that Janaka of the *Bṛhadāraṇyaka Upaniṣad* was the same as the father-in-law of Rama, for the *Bhāgavata Purāṇa* says

[15]About the existence of a Janaka dynasty, see F.E. Pargiter, *Ancient Indian Historical Tradition*, London, 1922, pp 64, 96, 141, etc ; also Raychaudhuri, *op. cit.*, p. 51.

[16]The references are to an ordinary edition, *Śrīmad-Vālmīki-Rāmāyaṇam*, Chowkhamba Vidya Bhavan, Varanasi, 1957, which alone is available to me at the moment.

that all the rulers of Mithilā were skilled in the knowledge of *ātman*.[17]

About (the supposed or real) events of the Rāma story having followed the *Mahābhārata* one, I would raise the same question as I did earlier : does it satisfy any Indian tradition ? The answer is clearly in the negative. The episode of the *Bṛhadāraṇyaka Upaniṣad*, we have just now seen, is irrelevant in this context The Purāṇic tradition clearly is that the Aikṣvāka dynasty of Kosala started in the Kali Age (irrespective of its antecedents) with Bṛhatkṣaya, the son of Bṛhadbala, who was killed in the Bhārata-war by Abhimanyu.[18] Bṛhatkṣaya was thus more or less a contemporary of Parīkṣit of Hastināpura. If Rāma was later than Parīkṣit, as Lal would have us believe, he must have been a successor of Bṛhatkṣaya. But his name does not appear in the Purāṇic Aikṣvāka list from Bṛhatkṣaya to Prasenajit, a contemporary of Buddha. On the very contrary, Rāma, with his ancestors Raghu, Aja and Daśaratha, prominently figures much earlier in the list.[19] According to no tradition was Rāma a king of the Kali Age, such as Parīkṣit, Bṛhatkṣaya and their successors were. The results of archaeology are viable and valuable in their own right, but tradition, with all its versions and self-contradictions, is immutable. Archaeology can confirm tradition, interpret it or reject it but cannot certainly alter it or create a new one.

I prefaced this note by saying that I have no views to express in this note on the authenticity on the epic and (Purāṇic) tradition. And I hope that nothing that I have said above will be taken to indicate my acceptance of rejection thereof. But we do look forward to the results of the excavations in the central Gaṅgā valley which Professor Lal proposes to undertake. They will no doubt be invaluable for the pre-historical archaeology of that part of the country, about which not much is known at present, irrespective of their utility to tradition.

[17]Pargiter, *op. cit.*, 1922, p. 96. I have not verified the reference in the *Bhāgavata Purāṇa*

[18]*Ibid.*, p. 94.

[19]*Ibid.*, pp. 148–49.

M.C. Joshi

Ever since the birth of Indology in the nineteenth century, the *Mahābhārata* as an ancient text has regularly been utilized by scholars for collecting valuable data pertaining to ancient Indian history and culture. Yet, the historicity of the events and personages referred to in this epic was never regarded as a non-controversial subject. Recently, Professors Sircar, Sankalia and a few others have raised fresh doubts on the historical character of the *Mahābhārata* events but the views of these scholars have been challenged by some others, including Prof. V V. Mirashi, Dr. V.C. Pande and Dr. H.A. Phadke. However, the matter still remains to be an unsettled issue for the general reader of Indian history. We, therefore, propose a fresh discussion on this subject.

The core of the *Mahābhārata* story presupposes the existence of many tribal principalities in north India comprising mainly the Kurus (Pauravas), Pāñcālas, Matsyas, Yādavas, Bhojakas (Andhaka-Vriṣnis), Chedis, Kasis, Madras, besides many others, and this distribution seems to be post-Ṛgvedic in character and does not fit in with the traditional accepted date of Mahābhārata war, around 3000 B.C., unless, of course, the data of the Ṛgveda itself is pushed back to pre-3000 B.C. period. In the latter case there is no positive archaeological evidence which could be cited to support such an assumption.

The second probable date attributed to the Mahābhārata events by some scholars is stated to be fifteenth or fourteenth century B.C. but this too does not coincide with the contemporary archaeological cultures represented by the late Harappan and post-Harappan or Copper Hoard settlements, particularly in view of contrast in the cultural standards of the urbanized and chariot and iron-using Mahābhāratan people and authors of late Copper Age cultures of north India.

A third date proposed for the Mahābhārata episode is around 950 B.C. or later and supporters of this proposition often associate the Painted Grey Ware settlements of north India with principal Mahābharatan culture as suggested by Lal,[1] after his

[1]B.B., Lal, "Excavations at Hastinapura and other explorations in the Upper Ganga and Sutlej basins 1950-51", *Ancient India*, 10 & 11 (New Delhi, 1954-55), pp. 147 ff.

excavations at Hastināpura. Lal's hypothesis is based on the evidence of a huge flood marking the end of the Painted Grey Ware Period (Period II) at Hastināpura. He felt that this flood may be the same which destroyed the city of Hastināpura during the reign of king Nicakṣu according to the Purāṇas which further record that as a result of the flood the Kuru (Pāṇḍava) capital was shifted to Kauśāmbī. During the course of excavation at Kauśāmbī too in lower levels a variety of the Painted Grey Ware was encountered. Lal further tries to substantiate his postulate on the ground that the Painted Grey Ware has been found in a number of sites associated with the Mahābhārata story including Tilpat, Indraprastha, Mathurā, Ahichchhatrā, Barnāwā, Kāmpil, Kurukṣetra, etc. He writes : 'Now when the archaeological data are viewed against the background of literture, some obvious questions begin to pose themselves. Is it a mere chance—

(*i*) that a large number of sites associated with the Mahābhārata story contain the same ceramic industry, viz. the Painted Grey Ware, in their lower levels ?

(*ii*) that the date of the *Mahābhārata* battle falls within Period II as Hastināpura ?

(*iii*) that the people who appeared in the Ghaggar-Sutlej valleys in a post-Harappan context—a period which synchronizes with the arrival of the Aryan-speaking people in that area, as per literary and inscriptional evidence, cited above - used the Painted Grey Ware ?

'Further, may not the archaeological evidence, be taken to indicate that the Purāṇic tradition regarding the washing away of Hastināpura and the subsequent shifting of the capital to Kauśāmbī may have some historical basis ?

'If it is believed that all these coincidences are nothing more than mere chances, the questions wind themselves up. Otherwise, a conclusion that would appear to force itself on us is : that the sites of Hatināpura, Mathurā, Kurukṣetra, Barnāwā, etc., are identifiable with those of the same name mentioned in the *Mahābhārata*. If that be so, the Painted Grey Ware would be associable with the early settlers on these sites,' viz. the Pauravas, Pāñcalas, etc., who formed a part of the early Aryan stock in India. Such an association may also explain the synchronism between the appearance of the Painted Grey Ware in

the Ghaggar-Sutlej valleys and the probable date of the arrival of the Aryans in that area. *May it, however, be emphasized that the evidence is entirely circumstantial and until and unless positive ethnographic and epigraphic proofs are obtained to substantiate the conclusions, they cannot but be considered provisional?*'

Lal's interesting hypothesis is also not unquestionable, for, the Painted Grey Ware culture although associated with iron, reflects only agro-pastoral economy of rural folk which stands in sharp contrast to city life and horse-drawn chariots of Mahābhārata aristoracy. There is no positive archaeological evidence to suggest large scale use of *rathas* with centrally-yoked animal prior to the Mauryan times,[2] as employment of chariot with central yoking system involved a proper and regular maintenance of roads under a centralized authority. Unlike bullocks in a cart which used to walk on two sides along sunken wheel tracks, the horses or horse yoked to a chariot moved centrally on a road only if it was even and free of hurdles.[3]

Secondly, the Painted Grey Ware cannot be connected with both the Kurus and the early Aryans as stated by Lal, for, traditionally, the Mahābhāratan tribes (e.g, Kurus, Pāñcalas, Yādavas, etc.) were different from their Vedic ancestors, culturally as well as chronologically. The founder of the Paurava (Kuru) line, according to Purāṇic tradition, was Pururavas, who is also mentioned in the *Ṛgveda* (I.31.4), yet we find it difficult to bracket him within the total time-frame of the Painted Grey Ware Culture as there is a gap of over ninety-two generations[4] between Pururavas and the Pāṇḍavas. If we accept 950 B.C.

[2]The earliest historical evidence of an Indian chariot is from Bulandibagh (Patna) in the Patna Museum represented by wooden wheel (4ft. diameter) with twenty-four spokes and three iron bands in the hub. It is stated to date in the Mauryan period. cf. *Patna Museum Catalogue of Antiquities* (Ed. P.L. Gupta) (Patna 1955) p. 150.

[3]It appears that horse-drawn chariot, although included in the fourfold conventional *angas* of an army, was never very popular as a means of transport in ancient India, for, it needed good roads. It was probably used within the city by kings and rich citizens for pleasure or ceremonial purposes. Employment of *ratha* in the warfare in spite of available terms like *apratiratha*, *rathī* or *mahārathī* is highly doubtful. The bullock-drawn *ratha*, however, was in common use in India till the medieval period.

[4]Pargiter, F.E., *Ancient Indian Historical Tradition*, (London, 1922), pp. 144-48.

or a little later or earlier as the date of the *Mahābhārata* war, then the early Puravas are to be placed somewhere before 2400 B.C. or at last 2000 B.C. which does not go well with the Painted Grey Ware.

Further, the evidence of flood at Hastināpura cannot be regarded as decisive as destruction of settlement by flood was a common feature in the Madhya-deśa through the ages. Similarly, the availability of the Painted Grey Ware at Kauśāmbī is not to be taken as proof of shifting the capital for it could have reached Kauśāmbī in the normal course of its expansion from west to east.

Lastly, Prof. Lal and others have explained the historicity of Mahābhārata events only partly supported by partial evidence in isolated contexts which is hardly convincing. If we take into account the available archaeological data in full, the cultural personality of the Mahābhāratan locale does not tally with the literary description.

Further, none of the supporters of the historical character of the Great Epic has so far explained the traditional conception of the *yugas*, e.g., *Krita*, *Tretā*, *Dvāpara* and *Kali* in relation to any time-scale, although all the traditional accounts placed the Mahābhārata battle towards the close of *Dvāpara* and beginning of *Kali-yuga*. Similarly, they have also been unable to state as to how Paraśurāma and Hanumāna or a few other personalities of earlier *yugas* have been referred to as contemporaries of the Mahābhāratan people.

Therefore, the historicity of the Mahābhārata is not beyond doubt in spite of the fact that traditionalist regards it as *itihāsa*. To us another name of the *Mahābhārata*, the *Pañcama-Veda* or the 'fifth book of knowledge' is more convincing, for, it has an encyclopedic character with central theme of the establishment of *dharma* (righteous mode of existence) involving the principle of live and let live. According to Vasudeva Sharan Agrawal,[5] the *Mahābhārata* gave a new definition of the relations between the state and people. It is tempting to quote the following verse of *Udyogaparva* in this respect—

[5]Agrawala, V.S., *Panini-kalian Bharatavarsh*, in Hindi, (Banaras—v.s 2012), p. 423.

Namo-dharmāya mahate
Dharmo-dhārayati Prajāḥ. II Ud. Par, 137/9.

It is to be remembered in this respect that the necessity of reinterpreting the *dharma* was caused by the Iron Age developments around fifth century B.C. and afterwards when as a result of the rise of new classes tension was created in the age-old social order. It is perhaps, therefore, Aśoka found it necessary to preach *dharma* amongst his subjects to minimize tension and to lessen turmoil in the society. The author or authors of the *Mahābhārata* (and also the *Rāmāyana*) realized this need and preached the message of *dharma* through idealized characters and events of already known legends. A parallel to such an attempt can be seen in the *Ālha-khaṇḍa* of Jagnik wherein the insignificant and doubtful role of Ālhā, Udal and their brothers in the twelfth century has been immortalized by hyperbolic poetic narrations to infuse a spirit of bravery amongst the Indians during the period of the Sultnate rule. Similar is the case with Jāyasī's *Padmāvata* which was written to popularize Sufic ideas of the poet himself.

It would, therefore, be always disappointing to look into the *Mahābhārata* as a historical text

Amarendra Nath

In the present controversy we are also faced with the problem of correlating the archaeological data with the traditional account. While going through the different views of scholars on the date of the Mahābhārata war we have been more or less convinced that the war took place in the 15th century B.C. as has been clearly worked out by Sarvashri S.B. Roy and K.C. Varma. We do not think that the war was fought in the 10th century B.C. as has been held by Pargiter and Lal.

In case our stand is correct, Painted Grey Ware cannot be the rightful claimant of the culture belonging to the period of the War There are only two archaeological cultures which can claim this status much better—Late Harappa culture and the Ochre Coloured Pottery-cum-Copper Hoard Culture, since both of them belong to the second half of the second millennium B.C.

The claim of these cultures has been contested by Prof. Lal on grounds which need not be absolutely correct. If, for the time being we forget the fact that some of the sites mentioned in the *Mahābhārata* have yielded the Painted Grey Ware, since there are many other sites mentioned in the *Mahābhārata* which have not yet yielded the P.G. Ware, particularly those located in the eastern and western regions of the country, then our problem becomes easy. We have to find out a culture which was predominent at Kurukṣetra, the actual place of the war, and the neighbouring areas in the Indo-Gangetic divide which belonged to the second half of second millennium B.C.

The claim of the OCP-Copper Hoards cannot be rejected as easily as it has been done by Prof. Lal, at least on two grounds : firstly, it represents a culture which contains a variety of heavy tools and weapons of copper which alone answer the description of some of the weapons of war mentioned in the *Mahābhārata*, and secondly, the remains of the OCP culture have been found at Hastinapura, the capital city of the Pāṇḍavas. It is significant to mention that it covers a very wide area of distribution of the Indo-Gangetic divide—from Amritsar in the west to Ahichchhatra is northern Pañcāla, and Biṭhūra in southern Pañcāla, both in the east.

The excavations at Ambkheri by Shri M.N. Deshpande has clearly shown that at one stage or the other, the Late Harappa Culture met and co-existed with the O.C.P. Culture. In fact, it appears that the Late Harappa Culture whose remains have been unearthed at Kurukṣetra by Dr. U.V. Singh, at Mitathal by Dr. Suraj Bhan, and at Bhagawānpura by Shri J.P. Joshi, is coeval with O.C.P. Culture. Although the Painted Grey Ware and Late Harappan, including O.C.P. culture, partly differ in their geographical distribution yet they overlap at some sites in Haryana, Punjab and western Uttar Pradesh. Archaeologically, the date of the Late Harappa Culture-cum-O.C.P. Culture coincides with the date of the Mahābhārata War. Therefore, we feel that Late Harappan and O.C P. people are the rightful claiment of the Mahābhārata period. Here it may be pertinent to mention that except for the absence of iron, the OCP and Late Harappa cultures, do not differ from the Painted Grey Ware Culture. In economy and structures, and in the domestication of certain animals and

plants, the two cultures are similar.

In view of the above facts and in view of the distributional pattern of the Late Harappan and O.C.P. cultures in the Indo-Gangetic divide, we presume that it is not the P.G. Ware that represents the culture of the period of the Mahābhārata War but it is the Late Harappa-O.C.P. culture-complex which represents the period in question.

Upendra Thakur

The recent controversy about the historicity of Mahābhārata is, in fact, heartening for a historian in particular and the history-loving public in general. It reflects a developed stage of historical researches in this country. It seems that we have reached a stage where we can look at our sources critically and analytically. This is a redeeming feature and instead of looking at it with our eyebrows raised, we should welcome it. It is true that the masses in this country believe in the Mahābhārata tradition but this fact is not enough to take it historical.

The worst problem that one has to face when discussing the Mahābhārata is its date. Neither literature nor archaeology is of much help. There are certain traditions mainly Purāṇic, on the basis of which attempts have been made to fix the date of the Bhārata War. There is one important inscriptional evidence, i.e., the Aihoḷe Inscription (A.D. 634),[1] according to which 3735 years had elapsed since the Bhārata War in the expired Śaka year 556. Āryabhatta, the fifth century A.D. astronomer, also held that the *Kali yuga* started in 3102 B.C. This tradition was followed by a host of later writers, so much so that the beginning of the *Kali* era in 3102 B.C. came to be more or less generally accepted ultimately But there are reasons to believe that this era was invented some 3500 years after the point of commencement assigned to it, i.e., in 5th century A.D.

Another tradition represented by Varāhamihira and Kalhaṇa places the Bhārata War in 2449 B.C.[2] One is rather hard placed

[1] *Epigraphia Indica*, Vol. VI, pp. 1 ff.
[2] D.C., Sircar, *Indian Epigraphy*, pp. 318-19.

to reconcile this tradition with the earlier one.

The Purāṇic traditions bearing on this subject are equally discouraging. The Vāyu, Matsya, Brahmāṇḍa, Bhāgavata and Viṣṇu Purāṇas quote the length of the intervening period from the birth of Parikṣita to the coronation of Mahāpadma Nanda. But this duration has been variously mentioned as 1050, 1015 or 1500 in different manuscripts. To regard it as 'a case of copyists' error is not very convincing; rather it seems more plausible that the Purāṇic chroniclers regarded this duration to have been something between 1015 and 1500 years, so that this tradition would assign the Bhārata War a date roughly between 1400 and 1950 B.C. Its reconciliation with the other traditions ascribing the Bhārata War to 3102 or 2449 B.C. is hardly feasible. Two other Purāṇic evidences, one based on the intervening period between Mahāpadma Nanda and Puloman, who was the last of the Āndhra kings, and the second based on astronomical calculations, are equally unpalatable.

Besides these traditions, there are certain equally absurd traditions, one in the *Kathāsaritsāgara* and the other in the Jaina canonical texts. The two traditions assign the Bhārata War a date *c.* 700 B.C. and *c.* 600 B.C. respectively.

The divergent traditions discussed above are highly confusing as well as illustrative too. This means that even in the minds of those chroniclers and ancient writers the memory of the Bhārata War was very remote. Incidentally, there is no reference to this war in the Vedic literature. This will simply mean that the war, if at all it actually took place, was not a momentous affair; it was probably some sort of a petty family feud or an insignificant tribal warfare. People had little or no idea about it. But the poet seized upon this theme and constructed an imposing structure over it. Gradually the epic became popular and it was then that there arose the need to date this war, and hence the ensuing confusion.

That the Bhārata War was not very momentous is also proved by the archaeological evidences unearthed at Hastināpura by B.B. Lal The excavator thinks that he has unearthed evidences which solidly prove the historicity of the Bhārata War and the strongest link of his argument is the evidence of flood at Hastināpura so often mentioned in the traditions. But even this evidence is too meagre to be relied upon. The

excavator himself admits that the flood was partial and it did not affect the whole settlement. But the flood with which one is accosted in the traditions was so devastating and complete that it affected the whole settlement and forced Nicakṣu, a successor of Parīkṣita, to shift the capital from Hastināpura. The remains do not even indicate any such disastrous calamity affecting human life as such. As a result, it would not seem very sound to accept the conclusions of Prof. Lal, rather we should wait for further archaeological discovery, if any.

It is, however, an agreed fact that the *Mahābhārata*, as it exists today, is in a badly mutilated form and a number of logical incoherencies in the body of the text can be explained away on this basis ; different cultural levels, etc., can be included within this category. But even then certain facts, which form the kernel of the whole episode are highly unconvincing. It is mentioned that a large number of people, 18 *akṣauhiṇīs* (the number of solidiers taking part in the Kurukṣetra war on both sides according to the epic story), took part in the battle. But this fact is highly intriguing. If one calculates the population of contemporary India on this basis one gets a fantastic figure. Moreover, it seems impossible that such a large number of people could be assembled together in a single battlefield or the commanders could direct the activities of such a huge crowd in an age of hand-to-hand fight. It is equally impossible to accept as historical fact, the participation of all the Kings of all parts of India in the Kurukṣetra war before the Later Vedic Age when the easternmost and southernmost areas of the country were unknown to the people of the western half of northern India. It is significant to note that even Pāṇini (5th century B.C) did not know the southern and eastern parts of India.

It is true that the Mahābhārata tradition is deeply entrenched in the minds of the Indians but to regard it as a proof of the historicity of this tradition, as R.C. Majumdar does, is simply unwarranted. Common beliefs and historical facts are quite different things. The only stand at the present moment that we can take is that the Bhārata War needs further historical proofs to be regarded as a historical fact.

Romila Thapar

One of the most amazing developments in 1975 has been the sudden publicity given to the question of the date and historical authenticity of the two epics, the *Mahābhārata* and the *Rāmāyaṇa*. Never before in the long history of this controversy (which goes back to over a century) have these problems been debated month after month on the front pages of the daily newspapers : nor have enterprising academics cashed in on the public interest by giving their views through a variety of forums. Today, any statement on the epics becomes a matter of priority for publicity. Clearly business is good for those of us in ancient history, archaeology and Indology—as indeed, for some of us who are not technically in any of these fields but still feel the urge to participate in the debate.

This is all the more surprising in view of the fact that public opinion, educational administration and even researchers in these fields have, by and large, been rather impervious to many of the more important and recent investigations, admittedly less dramatic, pertaining to the ancient past, particularly those which have indicated fundamentally different perspectives on the past. Such investigations have not percolated to points where they would provide new insights into the popular image of the past.

It would seem that the crux of the controversy in the press does not emerge from the purely academic problems posed. The arguments on the chronology and authenticity of the epics as historical narratives have been current in scholarly circles for the last many decades. The lack of any further incisive analysis at this point at the scholarly level, demonstrates a certain paucity in our understanding of epic traditions and in our handling of the historical method. Although the original controversy stemmed out of a recent academic debate, the momentum which carried it to the front page of the daily newspapers and the centre pages of innumerable weekly magazines arises out of a different concern. At a jocular level it may be suggested that the absence of other more 'meaty' debates led to a falling back upon a predictably controversial subject. But there is probably more to it than that. It indicates a point of uncertainty where both a questioning of and clinging to what is regarded as the

social and cultural tradition becomes enmeshed with social and political change. Attitudes to the tradition then become a pivot for mobilisation on other matters : a process which has been repeated throughout history but which has become more pointed in recent times.

Ancient traditions and what are believed to be cultural roots, hold a central place in cultural nationalism. During the nineteenth and early twentieth centuries, Indian scholarship was as much a party to the inter-connection of contemporary politics and the study of ancient traditions as scholarship anywhere else. But cultural nationalism has many historical phases and one wonders if the present interest in the epics is not in some ways parallel to the interest in the Nibelungenlied in nineteenth century Europe. The 'ancient tradition' poses at least two difficult problems for its inheritors. One is the need to identify with it. The other is either to disprove its historical authenticity and dismiss it as, therefore, valueless or else constantly to verify its authenticity by testing it with the most recent and, what are thought to be, the most scientific methods available. The recent debate suggests that it is in this last situation that we find ourselves.

For those of us professionally involved in these matters, the dating of the *Mahābhārata* and the *Rāmāyaṇa* and the problem of their historical authenticity are hardy perennials which crop up at every all-India conference and which have come to be treated with a certain indifference. The indifference stems from the fact that there has not been in the recent past any strikingly new interpretation on this specific subject calling for prolonged discussion or suggesting new dimensions to the problem. It is a sad commentary on the state of investigation of these problems that it is substantially the old evidence which is being juggled back and forth in attempts to suggest a range of dates. The present controversy has brought all the old guns to the fore —the technique of trying to read astronomical data in the texts and use these to work out the date, as also the computation of the geneologies listed in the epics and the Purāṇas as a basis for chronological reconstructions. The only relatively new method of investigation is the comparison with archaeological data, but even this is now almost two decades old. It might be worthwhile to look a little more closely at these methods and

see why the results remain unconvincing.

Some participants in the debate base their chronological conclusions on what they believe to be references, veilied or direct, to the position of the stars and constellations which they take as readings for astronomical data. The most popular of these are the readings suggested at the time of the death of Bhīṣma in some versions of the *Mahābhārata*. The inter-relation of constellations is then calculated back in time for many hundreds of years until a co-relation with the supposed evidence of the text can be made. These arguments tend to be highly esoteric and the debate is restricted to a few persons conversant with the language of astronomy and astrology. I say 'supposed evidence' not in any derogatory sense but, literally, since in cases where the references to astronomical data are veiled, the interpretation of these statements as symbolic of such data is, after all, a very personal matter and usually is doubted by those wanting precise evidence. It is true that ancient texts are often highly symbolic in content. The cross-check in the interpretation of symbols is that the meaning/interpretation must be uniform within the culture. If on one occasion *ṛkṣas* (bears) refers to the seven bears/Ursa Major constellation, it must do so on all occasions in the same text. The interpretation of symbols having by now become methodologically fairly systematic, this should be the first step in claiming the viability of certain symbols as astronomical data. Such a step still remains to be carried out.

Where the reference to astronomical readings are not veiled but direct, as where mention is made of the position of the *nakṣatras* (lunar mansions), it is possible that these references were interpolations of later editors wishing to give antiquity to the events described. Such references vary from edition to edition, from region to region and some are absent in the Critical Edition of the *Mahābhārata*, which is now accepted as the standard text. For any valid use of such data there would have to be a collection of all such references to astronomical readings and general acceptance of interpretation of these readings ; followed by a careful scrutiny to exclude those which are evidently late interpolations ; as well as a co-relation of the remaining readings with the known knowledge of astronomy and mathematics for the period to which the text is being ascribed. Need-

less to say this basic work still remains to be done. The understanding of astronomy is one thing, its application to history is quite another.

Others mathematically inclined, but less rigorous than the astronomers, have tried to compute the dates of these texts from the genealogical lists which the texts provide. The argument runs that if a mean average can be taken for the life-span of each generation, then by counting the generations a chronology can be worked out for the events described in the texts associated with particular generations. Much time and energy has gone into calculating the average life-span of a generation in India, particularly with reference to royal families. The dynasties of the medieval period, for which fairly precise data is available from court chronicles, were used as the source of primary data. The average length of reign of rulers was computed. Other sources on regnal years of dynasties were also consulted. The figures ranged from fourteen years to twenty-two. Depending on which figures one accepted it was thought possible to work out the life-span of epic genealogies.

The way in which this system works is as follows : we are told that a king, Udayana, believed to be a contemporary of the Buddha, reigned approximately twenty-four generations after the end of the Mahābhārata War. Assuming that the Buddha died in 468 or 483 B C., Udayana's reign can be placed at around 500 B.C. Taking an average of fourteen years per generation we arrive at the date of 836 B.C. for the war, as indeed has been suggested by a scholar recently. But we could as well take twenty-two years per generation as the time span in which we would arrive at a different date of 1028 B C The choice in either case is arbitrary since there is no reason for chosing fourteen in preference to twenty-two. And, if we accept as some scholars do, 544 B.C. as the date for the death of the Buddha, we would arrive at a still earlier date for the war. And, since there is no certainty that the number of generations listed are precise, the calculations stand on shaky ground.

Others compute the generations from the start of the *Kali Yuga* which is sometimes dated to 3102 B.C. but in some sources is also said to be associated with the Mahābhārata war. So that is not of much help either. Not only is the acceptance of a particular figure for a generation highly subjective, but the

figure itself is open to question. Little thought was given to the fact that habits of nutrition change over a period of a thousand or two thousand or (who knows) maybe even three thousand years and these habits together with general ecological changes affect longevity and average life-expectancy. Or, for that matter, that the chieftains of tribal groups or the heroes and kings of early States would be living in a totally different social system from the Sultans of Delhi and that this might affect not only life-expectancy but also the rate of turn-over of those in political ascendancy.

Nor has there been concern with examining the role of genealogies in history and society, on which there is now a large body of literature both from historians working on the genealogies of early West Asia and from anthropologists concerned with the function of genealogy as a social tradition in many parts of the world. If this literature is studied, it will soon become apparent that attempting to compute precise chronology on the basis of genealogies is virtually a negative exercise. Genealogies merely record which persons (and to that extent the events associated with them) came before and which after. Time-reckoning is approximate. Further, they serve an essentially social function as, for example, to allow more recent upstarts to attach themselves to an ancient lineage in order to acquire social status; or to prove the claim of a particular family to rights over land. At most, some information on the system of succession and the geographical location of a lineage can with difficulty be milked out of a genealogical record.

The genealogists has little compunction about either conflating the number of generations or of reducing them should they be desirous of fitting the lineage into a politically expedient pattern. The variants in the genealogies listing the lineage of Rāma or of the Pāṇḍavas and Kauravas are almost as many as there are texts. The purpose of the genealogy has much more to do with the time when it was compiled than with the early ancestors whom it claims to be listing And ancient Indian genealogical material is no exception to this.

In the last twenty years or so, the attempted chronology for the Indian epics has turned to archaeology as a possible source of information. This has resulted from the exploration and excavation of modern sites bearing place-names or associations

occurring in the epics, the classic example being Hastināpura, the city associated with the Kauravas. The situation is analogous with the excavation of Troy to prove the Homeric epics. (The discussion is virtually limited to the *Mahābhārata* since the important sites associated with the *Rāmāyaṇa* have yet to be excavated, although one of the arguments for the archaeology of the *Rāmāyaṇa* is based on this premise). If the contribution of an archaeological culture is found to roughly coincide with the geographical locale of the epic, a co-relation is suggested. However, even this can be deceptive since the geographical reach of the epic can undoubtedly expand as the geographical knowledge of its editors increases from century to century. Thus, the geographical locale of the epic can only refer to the time of the most recent redaction of the text. Nevertheless, it has been argued that the archaeological culture called the Painted Grey Ware, distributed in the main over Punjab, Haryana, north-western Rajasthan and western Uttar Pradesh, and dating to the early first millennium B.C. may be associated with the *Mahābhārata* since this is broadly the geographical area to which the text relates. On the assumption of this association and the genealogical exercise to which reference has been made above, we have been given the precise date of 836 B.C. for the war.

To calculate such pin-pointed chronology from archaeological evidence is almost to deny the validity of the evidence. One of the joys of using archaeological evidence for those of us who are non-mathematically inclined is precisely that it shifts the focus from the historian's obsession with chronology to the wider implications of the society under consideration. Thus, apart from the geographical co-relation, the more important investigation is whether the material culture excavated from the site/sites conforms to that described in the epic. Such an analysis which would be of immense value is almost impossible at the moment since none of the sites associated with either of the epics has as yet been excavated horizontally to reveal the spread of the culture at any given point in time. Since the excavations are all vertical, the evidence on material culture is limited. The comparative data from the epics also remain by and large unsystematically collated.

It is here that we come up against the core of the problem.

Only a few isolated attempts have been made to examine the social contexts of the epics. In the main, the texts are taken as 'a given' and whoever wishes to prove a point about the past delves into the epics and picks out his evidence. Yet, the compilation of an epic is a study in itself. It is a collection of bardic poetry describing heroic exploits, folk-tales, narrative episodes, fragments of genealogies, gobbets of customary law, myths, segments of religious cults, ethical theories and even philosophical speculation. The time-dimension of all these various nuggets ranges over many centuries and refers to a variety of social forms and situations. The epic unlike the myth is assumed to contain some trace of an historical kernel. But this does not mean that all the events are historically accurate or that even the historically proved event is accurately described in the epic. Epic literature based on bardic fragments is by definition a collection of many social traditions, generally referring back to the twilight period of tribal societies and the dawn of early kingdoms. The bard evokes a nostalgia for the heroic age and imbues it with a utopian gloss to which future generations look back with envy.

Epic literature therefore cannot be precisely dated ; events merge into events and narrative slowly gets welded with commentary. The *Mahābhārata* is a clear example of this as has been shown by scholars who have discussed the many accretion and interpolations over equally many centuries. The purpose of such accretions was both to bring the epic up-date with contemporary changes as well as to use it as a channel for new ideas and, new ethics. The *Rāmāyaṇa* carries fewer traces of the early epic tradition and is evidently of the more developed literary form of court poetry, hence its description as a *kāvya*. Although even in this text the composition is not uniform in style and time.

Any archaeological co-relation therefore would be complicated, to say the least, as it would require the sorting out of the stratification of the text, before such a co-relation could be attempted. At most, some period of occupation of a particular site could be connected with textual references. To try and identify an entire epic with an archaeological culture is virtually to attempt the impossible. What archaeology can be used for is the co-relating of items of material culture with literary

descriptions from the epics and this would indicate the technology, perhaps the socio-economic background and possibly an approximate time-context for that particular episode.

Some preliminary work on this kind of identification is being done by Prof. Sankalia with reference to the *Rāmāyaṇa* and the material culture of northern India. Those who claim that the Painted Grey Ware culture is the archaeological counterpart to the *Mahābhārata* show no understanding of the stratification of the text and the archaeological identification therefore carries little conviction. (Quite apart from the fact that if this identification is accepted then those who take as literal the descriptions of the wealth and splendour of the court at Hastinapura are in for a rude shock since the archaeological evidence indicates a rather simple, pastoral-cum-agricultural, pre-urban society).

The concern for dating the central event in the epic becomes something of an exercise in futility since the reflections of the epic itself on the central event would change with each new 'skin' which the epic acquires over time. A question posed a few decades ago still has considerable relevance, namely, was there only a single Bhārata war or was there an earlier one whose memory alone lingered and that the one referred to in the present text is a more recent conflict which got accreted on to an earlier epic ? There are a number of inexplicable discrepancies : such as that the two protagonists, the Pāṇḍavas and the Kauravas, are not related by blood to the lineage whose rights over land and government they are claiming to inherit. The kinship link with the lineage is based on a series of fictions. A strange situation indeed for a society where kinship links were fundamental.

There has also been much discussion on the question of why the two epics have survived in India and have been accepted as a part of the tradition in other parts of Asia, whereas in Greece the *Iliad* and the *Odyssey* have virtually disappeared, in England Beowulf is known only to the scholars and much the same would have happened to the Nibelungenlied in Germany and the Kalevala in Finland but for the fact that the were revived as part of cultural nationalism.

In a recent seminar it was suggested that the ethical values of the texts and the negation of the finality of death were

among the reasons for the survival of the epics in India. These reasons would apply to any epic literature since its creation links it to situations of changing values and epics try to comment on these in an ethical strain. The didactic thread is always present though possibly more emphasised in the Indian epics. Bardic poetry, since it sets out to immortalise the exploits of the hero is, in a sense, a negation of death as a finality. Bhiṣma's lengthy discourse on life and death as he lay dying on the battlefield, which is what is often quoted in support of the argument, is quite clearly extraneous to the original epic and was introduced by later redactors who were manipulating the epic for other functions.

There are of course more obvious reasons for the continuity of the epic in India. In epic literature, generally, the distinction between gods and heroes is clearly demarcated. The gods participate in events but strictly as gods. The heroes may be close to the gods but are essentially heroes. In the Indian epics, some of the heroes are converted into the incarnations of gods. Some may have a divine parent, but Rāma and Kṛṣṇa are actual incarnations of Viṣṇu. The literature which began as a secular folk tradition is at some point converted into sacred literature. In some other parts of the world the new religion, Christianity, dispelled the earlier gods ; in India the new religion. Vaiṣṇavism, devoid of any notion of paganism, introduced the idea of incarnations of Viṣṇu and used the epics for proselytisation.

Apart from this, social groups moving up the social scale and acquiring ksatriya status sought and were given connection with the two traditional genealogies, the Solar and the Lunar lineages, each of which form the genealogical core of the *Rāmāyaṇa* and the *Mahābhārata* respectively. Newly arrived elites therefore helped popularise the epics, which they projected as the story of the ancestors with whom they had claimed connections. A perusal of the late first millennium A.D. inscriptions from various parts of India, makes this link very clear.

The diffusion of the epics as part of the Sanskrit tradition was carried by traders and by settlers in new areas both in the Indian sub-continent and in Asia, with monks and priests strengthening the impact. Where it became the literature of those

in power it was also accepted by others. But it would be as well to remember that it is not the Vālmīki *Rāmāyaṇa* or the *Mahābhārata* ascribed to Vyāsa that is being discussed in a pan-Indian or pan-Asian context. It is the local version of what has been made of the bare bones of the story which is of greater significance, and these variations on the original theme need to be analysed. It comes as a surprise to many people that the Buddhist version of the story in India, as related in the *Daśaratha Jātaka* refers to Rāma and Sītā as brother and sister. This does not prevent Rāma when he returns from exile and is made king at Ayodhyā from taking Sītā as his queen consort. This is in accordance with the original myths of the early Buddhist tradition where sibling ancestors are regarded as the purest parentage.

What is important is not just that the story occurs in a Buddhist context as well, or that it is used for preaching a distinctly Buddhist ethic on the inevitability of death, but that it is given a particular focus which would have been abhorrent to Vālmīki, but which is quite consistent with the symbolic framework of Buddhist thought and society. The same process occurs in greater or lesser degree in all the different versions of the epics. It would be more worthwhile to try and understand how and why these stories were incorporated into the tradition of a culture or society and the function which they performed as media of ideologies (both religious and secular), values and social concerns, than merely to reiterate *ad infinitum*, the pan-Asian reach of the stories.

It would seem, therefore, that the necessary groundwork on the epic tradition still awaits completion before we can enter meaningfully into a discussion on its historical authenticity, let alone the date of the events described. This will require not only a sifting of the strata and 'skins' of the epics and an analysis of the changing function and purpose of the literature from age to age and region to region, but also a rigorous questioning of the methodology of analysis. The interest in the recent controversy emerges partially out of the wish to determine the accuracy of the tradition, but more one suspects out of the fear of attack on the bastion of tradition as well as the desire to prove it right. This would appear so from the fact that the controversy has focussed on statement and counter

statement rather than examining the methods used to arrive at the statements. Such a focus always carries the danger that what is being sought to be proved right is not the actual tradition, but what we today would like to interpret as the tradition.

R.C. Majumdar

In discussing the question whether the *Mahābhārata* is a 'myth or reality', we should begin by remembering a few facts which have been almost unanimously accepted by scholars all over the world. These are :

1. The proper meaning of the word *Mahābhārata* is "the Great Battle". For according to Pāṇini (IV.2.56) Bhārata means battle of the Bharatas (*Bharataḥ saṅgrāma*) and in the *Mahābhārata* itself we find *Mahābhāratayuddha* (XIV. 81.8) the 'great Bhārata battle', and *Mahābhāratākhyānam*" (I. 62.39) "the great story of the Bhārata battle," the title "*Mahābhārata*" being an abbreviation of the latter.

2. The Bharatas are mentioned in the *Ṛgveda* as a warlike tribe, descended from Bharata, according to the *Brāhmaṇas*, which also refer to a king of this line named Kuru whose family came to be called the *Kurus* or Kauravas and whose dwelling place, the country of the upper Gaṅgā and the Yamunā, was known as Kurukṣetra.

Later Vedic texts refer to an important branch of literature called Itihāsa-Purāṇa (also Itihāsas and Purāṇas) which dealt, among other things, with kings of ancient times, and also to a class of professional story-tellers (*Aitihāsikās, Paurāṇikās*). There were, besides, *Gāthā Nārasaṁsīs*—songs in praise of men —describing the heroic achievements of the warriors and princes. Winternitz, the great German scholar, therefore, very rightly observes : "These 'songs in praise of men', probably soon developed into epic poems of considerable length, i.e., *heroic songs*, and into entire *cycles* of epic songs, centering round one hero or *one* great event ; for the only two national epics which have come down to us, the *Mahābhārata* and the *Rāmāyaṇa*, represent but the last remnants of a long past period of epic

poetry. Many other heroes and great events in other royal houses also must have been sung. These old heroic songs, whose existence we must take for granted, have not all vanished without leaving trace ; in remains and fragments some of them have been preserved in our two epics."[1]

It would follow from what has been said above that the original epic, known as the *Mahābhārata*, dealt only with the great *Kuru-Pāṇḍava* war and the lots of things totally unconnected with it—which means a major part of the work—were later additions.

Next the question arises how far these heroic personages, who were the subject-matter of these ballads, may be regarded as historical. So far as the *Mahābhārata* is concerned we are in a much better position to answer this question than we are in the case of the *Rāmāyaṇa*, for we have external evidences regarding the existence of persons mentioned in the epic such as are not available in the case of the *Rāmāyaṇa*.

In the first place, it is to be noted that Bharata is the name of a people of great importance in the *Ṛgveda* and later Vedic literature.[2] The *Śatapatha Brāhmaṇa* refers to Bharata and another king of his family as having performed the Horse-Sacrifice. The *Vājasaneya Saṁhitā* refers to the Kurus and Pañcālas (evidently as a joint or united people). The *Taittirīya Saṁhitā* mentions the Kuru, Pañcāla and the Bharata as variants of the same name. The *Mahābhārata* cosistently recognises the Kurus as a Bharata family. As the Bhāratas and/or the Kurus played such an important role in politics as is mentioned in the Vedic literature, it is not reasonable to doubt the existence of the powerful family of the Kurus whose stories formed the kernel—or as suggested above the main subject-matter—of the original epic which later developed into the present *Mahābhārata*.

Secondly, not only the Kurus were the most important people mentioned in the Vedic literature of the *Brāhmaṇa*

[1]M. Winternitz, *Geschichte der Indischen Litteratur*, Vol. I, pp. 261-62 (English translation by Mrs. S. Ketkar), p. 314. Also Cf. H. Jacobi, Uber ein verlorenes Heldengedichte der Sindhu Sauvira in *Melanges Kern*, Leiden, 1903, pp 53 ff.

[2]Macdonell and Keith, *Vedic Index*, I. 165.

period, the *Kāṭhaka Saṁhitā*[3] knows the names of Dhṛtarāṣṭra and Vichitravīrya, two famous Kuru kings mentioned in the *Mahābhārata*.

Thirdly, some of the major Purānas, which may be regarded as more ancient and authentic than the rest of this class of literature, give a list of the different royal families that flourished after the Bhārata War and continued till they were subjugated by the Nandas in the 4th century B.C., as well as the names of their kings including some mentioned in the *Mahābhārata*, in an unbroken line of succession, together with their regnal years. In spite of differences between the different Purāṇas about details, there is clear evidence that these lists of kings were not fictitious but based upon authentic sources of information. For example, we know from the Buddhist literature, that may be dated about the fourth century B.C., if not earlier, the names of kings Bimbisāra and Ajātaśatru of Magadha, Prasenajit of Kośala and Udayana of Kauśāmbī, as contemporaries of Gautama Buddha.

Now we not only find the names of these kings in the Purāṇic list of the kings of the different localities but, what is more important still, these kings are all placed about four or five generations before these ruling dynasties were overthrown by the Nandas, showing their contemporaneity and establishing the fact that they flourished a century before the accession of Mahāpadma Nanda, i.e., in the second half of the fifth century B.C., and were thus contemporaries of Gautama Buddha. Another instance of the authenticity of the Purāṇic account is furnished by the fact that in the long list of the Paurava kings descended from Abhimanyu, the hero of the *Mahābhārata*, we find towards the end the name of Udayana, king of Kauśāmbī, according to the Buddhist literature. This confirms the tradition that the Kuru kings removed their capital to Kauśāmbī after the destruction of the city of Hastināpura by the Gaṅgā, a fact confirmed by archaeological excavations of the old site of Hastināpura. All these hardly leave any doubt that the Purāṇic list of kings in an unbroken line of succession from the end of the Bhārata War was based upon an authentic source.

The above fact and other more specific statements leave no

[3]Cf. Eggeling, X. 6. *Sacred Books of the East*, 12, XLI.

doubt that the Purāṇas regarded the Bhārata War as an epoch-making event which they described as ushering in a new *Yuga*—the *Kali*—after the *Dvāpara Yuga*. This is further emphasised by the general statement in the Purāṇas that interval between the birth of Parīkṣit, which practically coincides with the termination of the Bhārata War, and the inauguration of Mahāpadma Nanda is 1050 years. In other words, the date of the Bhārata War came to be regarded as an important fixed point in the chronology of Indian history.

The facts stated above hardly leave any doubt that the authors of the Purāṇas had good grounds to regard the Bhārata War as a historical event and had before them lists of kings of different dynasties ruling continuously from the end of this War to the 4th century B.C.

The interval of 1050 years between the end of the Bhārata War and the accesssion of Mahapadma Nanda, as stated by the Purānas would indicate that the Great War took place in the 14th or 15th century B.C. which cannot be absolutely regarded as true, as it is in contradiction with some other statements in the Purānas.

While there are very reasonable grounds in support of the view that the Bhārata War was not a myth but a reality it cannot be too much emphasised that the same thing cannot be said of the details of the war, particularly the number of soldiers employed, sensational incidents of the battle, etc. For there were undoubtedly poetic embellishments in the original heroic ballads to which were naturally added in subsequent times sensational stories and events Further, as has already been stated above, the portions of the *Mahābhārata*, such as the various legends, moral injunctions on didactic stories and religious doctrines like the *Bhagavad Gītā*, with which the present Epic abounds, certainly were later additions and cannot be regarded as forming a part of the original epic, though they are of great value and importance as literary heritance from hoary antiquity; probably not later than the fourth century A.D., when the Epic known as the *Mahābhārata* today reached its present form, for it was described in the inscriptions of the 4th or 5th century A.D as consisting of hundred thousand verses, i.e., very nearly its present volume.

V.V. Mirashi

We, the people of Bhārata, have all along regarded the *Mahābhārata* as a historical work. The Great Epic calls itself an *Itihāsa*. But recently some scholars, including some well-known archaeologists, have declared that the Mahābhārata War is a myth, not a reality. It is proposed to examine their arguments critically in the sequel.

In an interview with a representative of the U.N.I. Dr. D.C. Sircar advanced certain reasons for regarding the War as a myth. He says that there are no references to it in the Vedic literature. Kings like Bhagadatta could not have taken part in it. They are nowhere mentioned in that literature. These reasons are of the type of *argumentum ex silentio*. Such arguments are not regarded as conclusive. The extant Vedic literature is religious, not historical, where one could necessarily expect such references. Let me take an illustration. In the present century there have been two Great World Wars. Do we see them referred to in every work produced in this century? They are, however, referred to in every history of this age. No history of the Vedic age has come down to us; probably no such work was ever written. How can the absence of references to the Great War and the kings who fought in it in the Vedic literature be regarded as a reason for regarding it as a myth?

Dr. Sircar's second argument for regarding the war as a myth is that there are divergent views about its date. This argument also is fallacious. There is divergence of views on this point because we have no reliable history of the ancient period. Even with regard to admittedly historical periods there are divergent views. Let me take an instance. The Śātavāhanas ruled in the Deccan for some centuries. They are mentioned as Āndhras in the Purāṇas. Is there an unanimity among them about the number of their rulers and the periods of their rule? The Purāṇas say that thirty kings of this family ruled, but none of them gives thirty names. Some Purāṇas mention 17, 18 or 19, some 22 and some others 24. There is a similar divergence of views in regard to the total period of their rule. Would it be justifiable to say in view of this divergence of views that the Śātavhanas did not rule at all?

Dr. Sircar thinks that rulers of the eastern and southern

borders of India could not have taken part in the Great War fought in the eastern Panjab. Was south India completely unknown at the end of the Vedic period when the Great War is supposed to have been fought ? Do we not get references to Vidarbha and Kalinga in the Brāhmaṇas and the Upaniṣads ? In the Buddhist literature we get references to sixteen Janapadas comprising several countries of north India and one, viz., Aśmaka of south India. Are we sure that no such countries existed in the previous centuries ? That there are no references to them in earlier works is an *argumentum ex silentio.*

I shall next produce some positive evidence. There are incidental references to notable personages of the Epic period. The *Kāṭhaka Saṁhitā* of the *Yajurveda* (VIII, 3, 95) mentions Dhṛtarāṣṭra, son of Vicitravīrya, as a donor. Vicitravīrya is not a common name. So this Dhṛtarāṣṭra cannot be any other than the father of Duryodhana and other Kauravas. The *Atharvaveda* glorifies the administration of Parīkṣit. *Chāndogya Upaniṣad* (III, 17, 6) mentions Kṛṣna, son of Devakī. Paṇini explains the formation of the name Yudhiṣṭhira, evidently the eldest son of Pāṇḍu. He also refers to the devotees of Vāsudeva (Kṛṣṇa) and Arjuna (IV, 3, 98). Patañjali mentions Bhīma, Nakula and Sahadeva. In his age a play called *Kaṁsavadha* was performed. Paṇini knows Vaiśampāyana, a redactor of the Great Epic. Āśvalāyana also names him as *Mahābhāratāchārya.* These are incidental references and are therefore of great importance. The authors of these various works could not have combined to concoct a mythical story. It is surprising that Dr. Sankalia says that these references could not be taken at their face value "because they are incidental".

I shall next take up some arguments of Dr. Sankalia for scrutiny. He thinks that the war of Kurukṣetra was not a pitched battle, but "a contest between two individuals, whose personal bravery and skill in handling a mace or discharging arrows or even managing a chariot was everything." What is the evidence for this ? Not the Carbon-14 test, I suppose. He is evidently relying on the descriptions of the duel of Bhīma and Jarāsandha, and of Bhīma and Duryodhana in the *Mahābhārata.* But just as the Epic describes these duels with the mace, it also describes pitched battles between great armies. Why believe only the former and distrust the latter ? Dr. Sankalia says that large

armies consisting of infantry, cavalry and elephants had no place in these conflicts. What is the evidence for this ? The horse and the elephant were not unknown to the Aryans even in the Vedic period which was anterior to the epic period. They must have used them in their wars. Unfortunately, detailed descriptions of great wars are not extant in the Vedic literature ; but if Dr. Sankalia wants a reference to a pitched battle, he will find it in the Dāśarājña battle in which King Sudās fought with ten kings. (*Ṛgveda*, VII, 18). In describing the outcome of the battle the Vedic poet says, "The loot-seeking Anus and Druhyus, numbering sixty hundred and six thousand (respectively) lay down in eternal slumber. Sixty warriors and six more in addition did the same." Were these warriors assembled there to see the duel of Sudās with his opponents ? If such pitched battles took place in the Vedic age, is it any wonder that similar ones occurred in the succeeding Epic age ?

There is, therefore, no cogent reason why we should regard the Great War as a myth. Archaeological excavations can only reveal the material culture of a particular age. They cannot prove who were ruling and who were not, in the absence of such relics as inscriptions and coins. Carbon-14 test is not unimpeachable. Dr. Sankalia himself admits that it has gone wrong in some cases. What has happened once may happen ten times. We cannot hope to find evidence of the Great War in archaeological excavations.

Before closing this brief note, I would examine Dr. Sankalia's statement that the Critical Edition of the *Mahābhārata* is not older than the fourth or fifth century A.D. From some Gupta inscriptions we know that the epic had assumed that shape of one hundred thousand verses before the fifth century A.D. The *Harivaṁśa*, which forms an appendix (*Khila-parvan*) of it, dates back to the second century A.D. if not earlier ; for it has been used by the Vākāṭaka king Sarvasena in his now lost Prākrit Kāvya *Harivijaya*, and by Bhāsa in his plays.

The *Mahābhārata* has undoubtedly gone through several recensions as stated in the epic itself. The traditional date of 3101 B.C. of the Bhārata War is, of course, inadmissible ; and there are undoubtedly exaggerations in the size of the armies and the descriptions of the battle. But no cogent reason has

so far been advanced to regard it as a pure myth. On the other hand, there is ample positive evidence to support the tradition that the War was a reality.

V.C. Pandey

It is true that the *Mahābhārata* is neither the product of one man nor of one period. That it is a work of great antiquity cannot be denied. It finds mention in the *Āśvalāyana Gṛhya Sūtra* of about 600 B.C. It has been referred to by Pāṇini in his *Ashṭādhyāyī* (*c.* 500 B.C.). It seems to have assumed its present form much before the fourth century A.D. for the simple reason that Sarvasena (330-345 A.D.), the Vākāṭaka ruler, had composed his Prakrit work, the *Harivijaya*, on the basis of a theme from the *Mahābhārata*. Now, if the *Vajrasūci* is accepted as the work of Aśvaghosha, the present form of the *Mahābhārata* may be ascribed to the first century A.D., for two of the *ślokas* of the *Harivaṁśa* have found place in the *Vajrasūci*. Otherwise too, the *Harivaṁśa*, which comes to us as a supplement to the *Mahābhārata* can safely be placed 'between the birth of Christ and the third century A D.' That the theme of the *Mahābhārata* had become very popular by the second century A.D. is borne out by the Nasik Cave Inscription of Vāsiṣṭhīputra Pulamāvi dated 149 A D., alluding to the valour of Ramā, Keśava, Arjuna and Bhīma, the well-known characters of the *Mahābhārata*.

The names of a number of heroes of the Mahābhārata war are preserved in the Vedic literature. The *Atharvaveda* (XX. 127.7) refers to Parīkṣit, the king of the Kurus whose son Janamejaya is said to have performed the horse sacrifice according to the *Śatapatha Brāhmaṇa* (XIII. 5.4). The *Chāndogya Upaniṣad* (III. 17.6) is familiar with Devakīputra Kṛṣṇa who has rightly been identified with Śrī Kṛṣṇa of the Mahābhārata age by Grierson, Garbe and numerous other scholars. Dhṛtarāshṭra Vaicitravīrya finds mention in the *Kāṭhaka Saṁhitā* (5.9.8). Even the *Khāṇḍava* has been referred to as the boundary of Kurukṣetra in the *Taittirīya Āraṇyaka* (V.1.1). These

references will make the Mahābhārata war look as a historical event of the later Vedic period. It is futile to look for a detailed description of this war in the Vedic literature, for the latter is primarily concerned with the socio-religious matters.

The survival of a large number of the towns and sites of the Mahābhārata age as centres of pilgrimage through the ages will be hard to explain, if we treat the Mahābhārata war as a myth. If the war was not fought at Kurukṣetra, it will be difficult to explain why there are no fewer than 360 places of pilgrimage associated with the heroes and happenings of the Mahābhārata war in that region alone. The *Mahābhārata* has it that on their way to the kingdom of Jarāsandha, Śrī Kṛṣṇa, Bhīma and Arjuna had visited the *Padmasara* in the Kurukṣetra region. This tank can still be seen at a distance of about 182 kilometers from Kurukṣetra. Amīn, situated at a distance of a 9 kilometers from Kurukṣetra, has derived its name from Abhimanyu who had thrown Droṇācārya's *Cakra-vyūha* in complete disarray here. Safidan preserves the memory of the '*Sarpadamana-yajña*' performed by Janamejaya there. Nakula is still remembered to have visited Rohītaka (Rohtak), Mahitthama (Meham) and Śairīṣaka (Sirsa), when he had set out on his *digvijaya*. Modern Kamodhā stands for the *Kāmyavana* described in the *Mahābhārata*. Such examples point towards a persistent tradition running through the ages which has kept the history of the Mahābhārata war well preserved in human memory. As has rightly been observed by Woolley, 'It is never wise to reject traditions off-hand ; in most cases they contain a modicum of truth, even if it be only a background for fiction' (*Ur Excavations*, the Early Periods, p. 18).

The historicity of the *Mahābhārata* war has been accepted not only by Brāhmanical works but also by Buddhist and Jaina ones. The Kuru Janapada, sanctified by the *Gītā*, came to be known as the Janapada *par excellence* in Buddhist literature as well. The *Kurudhamma Jātaka* extols the virtuous conduct of its inhabitants (*Jātaka*, Vol. III, No. 276). *Kuruvatta Dhamma* has been highly spoken of in the *Majjhima Nikāya Tīkā* (1.125) as well. Draupadī's marriage with the Pāṇḍavas has been alluded to by the non-Brahmanical writers (*Jātaka* No. 5 p. 426; *Nāyādhamma* Kahā 16.679-82).

The Jaina tradition describes Neminātha and Kṛṣṇa as

contemporaries. Even Yuan Chwang did not fail to record that a great war was fought at Kurukṣetra and that heaps of bones of the slain warriors lay buried under its soil. The historicity of the Mahābhārata war was accepted by the whole of south-east Asia which accepted the *Mahābhārata* as a sacred work and immortalised it by adopting its various themes for sculptural presentation on the walls of its temples. No myth, not even a family feud, as some scholars would make the Mahābhārata war appear to be, could assume an all India, nay, an all Asia, character. In a country like India which abhorred monolithic approach and which witnessed even the denial of God and the repudiation of the Vedas by the Cārvākas and the Kautsas respectively, the Mahābhārata war could not have been accepted as a historical event by all *ācāryas* irrespective of their divergent religio-philosophical systems, had it been a fanciful creation of the bards and poets.

The Purāṇic data can usefully be utilised to determinie the approximate date of the Mahābhārata war as well. The Purāṇas speak of 95 generations between Manu Vaivasvata and the Mahābhārata war. Manu has rightly been placed about 3100 B.C., the date of the Great Flood (*Purāṇa*, VI, pp. 319-325). Roughly assigning a period of 20 years to each generation, we get (3100−95×20=) 1200 B.C. as the date of the Mahābhārata war.

The date of this great event can be calculated in another way. The Purānas aver that Candragupta Maurya was separated from Yudhiṣṭhira by 36 generations. Now, the date of Candragupta Maurya is generally believed to be 322 B.C. Assuming that 36 generations covered a period of (36×20=) 720 years, Yudhiṣṭhira would have flourished around (322+720=) 1042 B.C. This will also be the approximate date of the Mahābhārata war. Putting these two ways of calculation together, we may conclude that the Mahābhārata war was fought some time between 1200 B.C. and 1000 B.C.

The historicity of the Mahābhārata war is corroborated by the Painted Grey Ware which has been discovered at a number of sites associated with the Mahābhārata war. Unfortunately, the Carbon-14 tests have provided different dates for this ware from different sites. However, the date of the Painted Grey Ware from Ataranjikherā, namely, 1150 B.C., may not be far

from correct. It is in broad agreement with the dates suggested by the Purāṇic data.

The arguments advanced by certain scholars to refute the historicity of the Mahābhārata war are not irrefutable.

Sometimes it has been claimed that the known chronology of the Harappan culture is incompatible with the proposed dates of the Mahābhārata war prior to 1000 B.C. They are not. The theory that the Harappan culture was destroyed by the Aryans who entered into India about 1500 B.C. is belied by latest researches. The Harappan culture disappeared in the Panjab about 1750 B.C. Again, the possibility of the Aryan elements being present in the Harappan culture cannot be completely ruled out. The internal evidence of the *Ṛgveda* and the Purāṇas suggests the contemporaneity of the pre-Harappan and Harappan cultures with Aryan culture for centuries. A.S. Altekar's view that the Harappans had participated in the Ṛgvedic 'Battle of Ten Kings' deserves serious consideration.

The Purāṇas indicate that during the *Drāpara* age, which came to an end with the Mahābhārata war, almost the whole of India was Aryanised. The *Mahābhārata* itself contains a list of no fewer than 250 *janapadas* in different parts of the country from Kamboja in Central Asia to Sūramasa in Assam. The process of the formation of large kingdoms started during the *Ṛgvedic* period. The later Vedic period witnessed its acceleration on account of the amalgamation of certain tribes into single units and the policy of aggression and expansion pursued by the Indian kings. For instance, the Bhāratas and the Purus merged to form the Kuru kingdom. The merger of the Druhyus, the Yadus, the Anus, the Krivis and the Turvasas brought about the kingdom of the Pañcālas. The adoption of the grandiloquent titles like '*Samrāṭ*', '*Ekarāṭ*' and '*Adhirāṭ*' instead of the simple '*rājā*' by kings indicated the gradations of political power of these states. As indicated by V.S. Agrawal, a large number of these *janapadas* had already come into existence by 1000 B.C. To deny their existence on the basis of the meagre results of limited archaeological excavations would mean the rejection of the combined testimony of the whole mass of Brahmanical, Buddhist and Jaina literature.

Even on the basis of the find-spots of the Painted Grey

Ware, which is, according to archaeologits, associated with the people of the Mahābhārata age, most of the northern region from the Indus basin to the Nepal tarai was under the occupation of the Aryans. Only the chronology of this ware has not been satisfactorily worked out so far on account of inadequate excavations and self-defeating results of Carbon-14 dating.

Now, if the Kuru kingdom alone stretched from Kurukṣetra to Kauśāmbī and had a number of allies around it in Haryana, Panjab and Himachal Pradesh only, the Mahābhārata war would assume enormous proportions. In that case, it would hardly be a family feud and would have involved the entire war potential of the Aryan world.

To say that if the Mahābhārata war is placed around 1400 B.C., the heroes of that war would seem to have fought with insignificant looking microliths, small maceheads, sling balls of stone and terracotta is to place too much reliance on the inadequate archaeological data at our disposal. It is to be remembered that the archaeological excavations so far have failed to produce any remains of the material culture of the *Ṛgvedic* Aryans whatever theories of Prof. B B. Lal and Prof. A.H. Dani may be. Though the excavations have revealed the existence of iron in the Gangetic Doab and certian other parts of the country during 1100 B.C.—800 B.C. bracket, the chronology of its earliest use in Haryana and Panjab, the homeland of the Aryans, is yet to be determined. There is every reason to believe that the Ṛgvedic Aryans were very well familiar with iron. The *Ṛgveda* speaks of the '*Āyasī Puras*' (forts of iron). It tells us how the Aśvins had replaced Vispalā's leg by that of iron.

Ancient Indian literature alludes to a number of sophisticated weapons. The *Ṛgveda* speaks of the '*Pura-Cariṣṇu*'. It has rightly been interpreted as a machine to demolish the forts. The *Taittirīya Saṁhitā* refers to the '*Śatāghnī*' which seems to have been some kind of cannon. Later, Ajātaśatru is said to have used '*Rathamūsala*' and '*Mahāsilā-kaṇṭaka*' to overwhelm the Licchavis by their highly destructive power. Are we to cast aside such literary descriptions of the profuse and sophisticated armoury of our ancients, solely because the archaeologists have not dug out their specimens so far ?

The fact of the matter is that there is a growing tendency to

discard the traditional accounts in favour of even the fragmentary archaeological data. While writing in the *Indica*, Vol. I, No. I March, 1964, H.D. Sankalia rightly observed that in the efforts to discern India's past, its own traditional accounts, for instance, the *Epics* and the *Purāṇas*, have almost been ignored and were regarded as pure myth, no doubt, due to deep rooted prejudice. But does he remember that ?

The veracity of the traditional account of the destruction of Hastināpura by floods in the Gaṅgā and the shifting of the capital from there to Kauśāmbi has been corroborated by archaeological excavations. If adequate excavations are conducted at a few other important sites of the Mahābhārata period, preferably in a horizontal manner, the results may turn out to be more satisfactory, as Sankalia also feels. As things stand at present, the persistent traditional account regarding the historicity of the Mahābhārata war, as one of the most important wars of ancient India, cannot be brushed aside as untrustwrothy.

V.N. Datta

Those who question the historicity of the Mahābhārata war do so on the ground that there is no direct literary and archaeological evidence establishing its reality, and they go further by disregarding the veracity of the Purāṇic tradition, and highlighting the 'interpolative' character of the *Mahābhārata*. In the reconstruction of the period of our ancient Indian history when our forbears did not demonstrate a strong historical sense, and did not record events like the Greeks, we ought to be circumspect in treating the evidence with an imaginative sympathy and judicious scrutiny. Two points must be made at the outset—first, as the war took place after the composition of the *Ṛgveda*[1] there could, therefore, be no possibility of its being mentioned in the early Vedic literature. For one thing, Vyāsa, the compiler of the Vedas was also the author of the

[1]See Dr. H.A. Phadke's paper in this monograph regarding the date of the Bhārata war. (Eds.)

Mahābhārata. So possibly he was resisting the temptation of duplicating his task. Secondly, the Vedic literature belonged to a different category of work in which religious matters tended to gain primary importance.[2]

The site of Kurukṣetra as a battlefield is significant because it had enjoyed the reputation as a battlefield prior to the Mahābhārata war, and this reputation continued even thereafter. Earlier it had been the scene of the tribal conflicts of the Aryans and the non-Aryans as reflected in the hymns describing the battles of King Sudāsa.[3] It was here that Bhārgava Paraśurāma fought Bhīshma.[4] The martial qualities of the people of this region were also recognised later by the *Manusaṁhitā* which recommends the placing in the van of battle men born in Kurukṣetra together with those of Matsya, Pāñcāla and Śūrasena.[5]

The opening verse[6] of the *Mahābhārata* refers to a historical poem called '*Jaya*' (victory) which was composed by Vyāsa, a contemporary of the heroes of the war. This poem alludes to the strife between the rivals, Kauravas and Pāṇḍavas which Vyāsa witnessed. This work is unfortunately lost (?), but it did exist once is clearly gathered from the epic. The early Vedic literature[7] refers to a number of rulers, like Śantanu, Vichitravīrya and Dhṛtarāṣṭra later described in the Purāṇas as ancestors of the epic heroes, and Devakīputra Kṛṣṇa[8] and Śikhaṇḍin Yajñasena[9] (the direct participants), suggesting thereby their involvement in the war. Śāṅkhāyana and Āśvalāyana (c 800-600 B C.) the well-known *Sūtrakāras*, the two early authorities were well-acquainted with the war. Śānkhāyana mentions a sacrificial error which had brought misfortune to the Kurus by

[2]These comments are warranted because Dr. D.C. Sircar regards the absence of mention of the war in early Vedic literature as a decisive reason for doubting its reality.

[3]*Ṛgveda*, VII. 18. 18-19.

[4]*Mahābhārata*, *Udyoga*, 5. 180-186

[5]VII. 193

[6]*Mahābhātata*, *Ādi*, 62. 20; *Udyoga*, 136. 18.

[7]*Ṛgveda*, X. 98 ; *Kāṭhaka Saṁhitā*, X. 6.

[8]*Cāndogya Upaniṣad*, III. 17. 6 ; Weber, *Indian Literature*, 169.

[9]*Kaushītaki Brāhmaṇa*, VII. 4

driving them out of Kurukṣetra.[10] Āśvalāyana's knowledge of the event is evident from his reference to Vaiśampāyana, a pupil of Vyāsa as *Bhāratācharya*.[11] Pāṇini[12] (*c.* 500 B.C.) the distinguished grammarian, mentions, curiously enough, in his disquisition on grammar, the names of Vāsudeva, Arjuna, Bhīma, Bhīṣma, Yudhiṣṭhira, Kuntī and Kurus who were connected with the Mahābhārata war. He is acquainted with Vyāsa and his pupils Paila and Vaiśamapāyana. This extraordinary collection of names at one place though made for a different purpose denotes the particular type of relationship in which these personalities were involved, and which became a theme of the epic. Patañjali[13] (*c.* 200 B.C.), another noted grammarian, similarly refers to Bhīma, Nakula and Sahadeva. Kauṭilya (*c.* 400 B C.) attributes the destruction of Duryodhana to his usurpation of another's (Pāṇḍava's) kingdom.[14] This literary tradition extended over for more than a thousand years has persisted down the centuries particularly in a number of places in Kurukṣetra studded with memories of the Bhārata war.

The earliest Purānas[15] (5th-4th century B.C.) consider the war as a dividing line between two great epochs – *Dvāpara* and *Kali*, i e, past and present, and their genealogical portion which does not mention the next generation of the Kauravas (thereby suggesting their extinction) continues the Bharata-Kuru genealogy only in the line of Arjuna, third of the Pāṇḍavas. This also finds corroboration in the Buddhist literature[16] which refers only to Dhañanjaya and Kings of the Yudhiṣṭhira stock. The Purāṇas affirm quite distinctly that the Mahābhārata war inaugurated a political era, and a new period of degradation from the cultural point of view.[17] The ruin of the Yādavas because of the fraticidal strife, the attack of the Ābhīras on the forces of Arjuna, the Nāga

[10] *Sānkhyāyana Śrauta Sūtra*, III. 4 16. 10-13.
[11] *Āśvalāyana Grihya Sūtra*, III. 4.
[12] II. 4.59 ; III. 3.130 ; 4.74 ; IV. I. 114, 169, 176 ; 3.104 ; VIII. 395.
[13] IV. I. 4.
[14] *Arthaśāstra*, I. 6.
[15] *Matsya*, 273.49-50 ; *Vāyu*, 99. 428-29
[16] *Jātakas*, II. 366 ; III. 400 ; IV. 361, 450 ; VI. 260, etc.
[17] F.E. Pargiter, *Ancient Indian Historical Tradition*, 1962, pp. 284-85.

invasion of Hastināpura and the subsequent death of Parīkṣit illustrate the general decadence of the times. The Chinese pilgrim Hiuen Tsiang who visited Kurukṣetra in 634 A.D. while referring to a popular tradition regarding the battle states that 'a terrible fight had taken place in the region of Thānesar in remote times so that the entire area was covered with bones which were still visible to him'.[18] In the Purāṇas there is a reference to Asthipura or 'the city of bones' which Cunningham[19] has identified as the site where the cremation of those slain in the battle took place.

The archaeological evidence[20] in support of the Bhārata war is indirect as B.B. Lal has shown.

The P.G. Ware associated with the Mahābhārata period presupposes knowledge of iron technology, and the possibility of its use in warfare in some form cannot be altogether ruled out. Even if it is assumed that iron came in regular use in warfare at a later period it need not prevent a war being waged and won without it. The description of the war in the *Mahābhārata* is no doubt exaggerated but to deny the historicity of the event on this count is unjustified.

According to the *Mahābhārata*[21] the battle was fought at Samantapañcaka (another name for Kurukṣetra) and seems to have extended over the area covering Kaithal, Pehowā, Amīn, and Thānesar. This is confirmed by the local tradition which associates a number of places such as Bāṇagaṅgā, Amīn, Karṇa-kā-quilā, Bhor, Basthalī, with the heroes and events of the war.

[18] *Buddhist Records of the Western World*, Trans. Samuel Beal, 1969.

[19] *Archaeological Survey of India, Report*, XIV, 1970, p. 94.

[20] B.B. Lal, "Archaeology and the two Indian Epics", *Annals of the Bhandarkar, Oriental Research Institute*, LIV, 1973, Pts. I-IV, pp. 1-8; *Ancient India, Bulletin of the Archaeological Survey of Indi*[...]

[21] *Mahābhārata, Ādi*, 1.2.8[...]

H.A. Phadke

The importance of the Bhārata war date for the chronological reconstruction of the early history of ancient India is unquestioned. It is, in fact, one of those few topics of ancient India over which so much diversity of scholarly opinion has existed. This may be accounted for the conflicting nature of the evidence at our disposal—literary, archaeological and astronomical. But it is still possible, as shown by the recent controversy, to reinforce the literary evidence with archaeological finds, and to arrive at a reasonable date for the Bhārata War.

The Vaṁśa or the list of teachers given in the *Śatapatha Brāhmaṇa*,[1] *Bṛhadāraṇyaka Upaniṣad*[2] and *Kauṣītaki* or *Śāṅkhyāyana Āraṇyaka*[3] suggests that Guṇākhya Śāṅkhāyana, the well-known *Sūtrakāra*, flourished seven or eight generations after Parīkshit who was born after the war. Śāṅkhāyana was a contemporary of Āśvalāyana,[4] another renowned *Sūtrakāra*. Whether this Āśvalāyana was identical with his name-sake mentioned in the *Majjima Nikāya*[5] as a contemporary of Buddha cannot be said with certainty but it goes beyond doubt that the war was fought before Śāṅkhāyana and Āśvalāyana (*c.* 800-600 B.C), the early authorities on the subject.

The early Vedic literature mentions quite a number of rulers of the Bharata-Puru-Kuru line who are known to the Mahābhārata as ancestors and predecessors of Parīkshit. These rulers are : Purūravas Aila[6], Āyu,[7] Yayāti Nāhushya,[8] Puru,[9] Bharata Dauhṣanti,[10] Ajamiḍha,[11] Ṛikṣa,[12] Saṁvaraṇa.[13]

[1]*SB*. X.
[2]*B.U*. VI.
[3]*Adhyāya*, 15
[4]Śāṅkhāyana's teacher Kahola is honoured by Āśvalāyana.
[5]II 147.
[6]*Ṛgveda*, X. 95 ; *Śatapatha Br*. XI. 5,1.1.
[7]*Ṛgveda*, 1.53.10 ; 11.14,7. etc.
[8]*Ibid*., 1.31.17 ; X. 63.1.
[9]*Ibid*., VII 8.4 ; 18.13.
[10]*Śatapatha*, XIII 5 4. 11-12 ; *Aitareya*, VIII. 23
[11]*Ṛgveda*. IV, 44.6.
[12]*Ibid*., VIII. 68.15.
[13]*Ibid*., 51,1.

Pratīpa,[14] Balahika Prātipīya,[15] Śantanu[16] and Dhṛtarāṣṭra Vaicitravīrya.[17] Of these Śantanu mentioned in the 10th *maṇḍala* of the *Ṛgveda* and Dhṛtarāṣṭra Vaicitravīrya of the *Kāṭhaka Saṁhitā* are of crucial importance in respect of their near contemporaneity to the Bhārata war. Śantanu and Dhṛtarāṣṭra were the same known to the Epic and Purāṇic tradition as the great grand-father and father of the Kauravas. Furthermore, the Vedic literature also mentions Devakīputra Kṛṣṇa[18] and Śikhaṇḍin Yajñasena[19] (the direct participants) and Vyāsa Pārāśarya[20] known to the earliest Purānas as the compiler of the Vedas, and also a contemporary of the Mahābhārata heroes.

On linguistic grounds the composition of the Ṛgvedic hymns has been suggested as between 1500-1000 B.C.[21] On this basis the date of Śantanu referred to above may reasonably be fixed sometime in the early 11th century B.C. Counting from this point and considering the rules of the intervening generations, i.e., of Vichitravīrya, regency of Bhīṣma and the long reign of Dhṛtarāṣṭra, it may be possible to date the Mahābhārata war at about 1000 B C. This also provides a margin of a few centuries for the foundation and growth of Vedic culture after the destruction of the Late Harappan culture (*c.* 1500 B C.).

Attempts at fixing the date of the battle were made for the first time by astronomers in the Gupta period because of the growth of scientific literature on that subject. But the date in the 4th, 3rd and 2nd millennium B.C is not compatible with our knowledge of the proto-historic period, i.e., the discovery of Late Harappan settlements (2000—1500 B.C.) at a number of places such as Daulatpur, Karna-ka-qilā, Dūdhkheri, Paṇḍiton-ka-Tīlā and Jognā Kherā—all situated in the Kurukṣetra region. Fixing the date in the 15th, 14th, 13th and 12th century B.C.

[14] *Atharvaveda*, XX 129.2.
[15] *Śatapatha*, XII. 9.3.3.
[16] *Ṛgveda*, X. 98.
[17] *Kāṭhaka Saṁhitā*, X. 6.
[18] *Chāndogya Upaniṣad*, III. 17.6 ; Weber, *Indian Literature*, p. 169.
[19] *Kaushītakī, Brāhmaṇa*, VII. 4.
[20] Macdonell and Keith, *Vedic Index*, I, p 519 ; *Vāyu*, 60, 12-16 ; *Viṣṇu*, III 4, 7-10 ; *Brahmāṇḍa*, II, 34, 12-16.
[21] A.L. Basham, *The Wonder that was India*, p. 32.

goes against the accepted scheme of an average reign per generation between the war and king Udayana of the Purāṇic genealogy. The recent attempt to bring down the date of the war to the second half of the 9th century B.C. does not hold good. It cannot be reconciled with the date of the composition of the *Ṛgveda* on linguistic considerations, and the reference to Śantanu and Dhṛtarāṣṭra as mentioned above. The battle was fought after the composition of the *Ṛgveda*, and, according to me, its date may be fixed approximately at 1000 B.C. This comes closer to the date 950 B.C. suggested by Pargiter[22] on the basis of the Purāṇic genealogy, and 980 or 932 B.C. proposed earlier by B.B. Lal[23] on the basis of the archaeological evidence discovered at various Mahābhārata sites such as Hastināpura, Indraprastha, Pāṇiprastha, Kurukṣetra, Amin, Pehowā and others.

Ajaya Mitra Shastri

The controversy about the historicity of the Mahābhārata war is not new and can be traced back to the beginnings of Epic studies when doubts were freely expressed regarding the genuineness of the events narrated in the *Mahābhārata*. The historical reality of the Great Epic has, for instance, been contested, among others, by scholars like Dahlmann, Ludwig and Lassen and several allegorical and symbolical interpretations have been ventured. But the polemic was till recently confined only to the coterie of scholars. The main contribution of the current debate seems to be that it has brought this rather academic question to the notice of every one. While the focal point of the controversy remains the same, some archaeological considerations have also been sought to be pressed into service by both the parties denying and defending the historicity of the

[22] P.E. Pargiter, *Ancient Indian Historical Tradition*, 1962, p. 182.

[23] B.B Lal, "Archaeology and the two Indian Epics", *Annals of the Bhandarkar Oriental Research Institute*, LIV, 1973, Pts. I-IV, pp. 1-8; *Ancient India*, 10 and 11 (1954-55).

Great War in support of their respective contentions.

The historicity of the Mahābhārata war was never questioned before Western scholars started taking active interest in Epic studies in modern times. Even the followers of non-Vedic religious systems like Buddhism and Jainism, who did not take kindly to many a Brahmanical tradition and levelled sharp criticism against it, did not express even the slightest doubt about the reality of the event in question. They just tried to utilise the episode for their own purpose which resulted into a remodelling of the story. Had there been even the slightest reason to question it, they would have certainly not spared it. Judging from unanimous ancient traditions, the Mahābhārata war, to all intents and purposes, was an event of enormous magnitude and had an indelible impact on Indian life and thinking not only within India but also beyond the frontiers to an extent unmatched by any other episode. It furnished themes to many an artist and literature who found in it ample scope for venting their artistic impulse. No other episode can lay claim to a greater and more forceful expression in literature and art. The historical reality of such a popular event cannot be called into question unless there are really forceful reasons for doubting it. And no strong grounds have so far been adduced to prove its unhistorical character, as will be shown below.

The present controversy emanated from Dr. D.C Sircar who challenged the historicity of the Mahābhārata war on the ground: (i) the incongruity of its occurrence in the 2nd or 3rd millennium B.C. with the accepted views regarding the Harappan civilization and the advent of the Aryans in India about the middle of the 2nd millennium B.C., (ii) the prevalence of divergent traditions about its date, (iii) the absence of reference to it in the Vedic literature, (iv) the unreliability of the Puranic chronology, and (v) the association of the southern and eastern kings with the war which is inconceivable prior to the 4th century B C., for Pāṇini, who lived in the 5th century B.C., had no knowledge of the south and the east. But these arguments fail to carry conviction. The end of the Harappa culture in the Sind-Punjab region is now generally placed in *c*. 1750 B.C. The Aryan problem, including their original home and the date of their entry into India, is a vexed one and it is futile to bank upon it in any discussion on the Bhārata war. The old view

about the destruction of the Harappa culture by the Aryans is no longer seriously held by any scholar. It has been suggested by some that 'the Aryans formed part of the diverse population', and that they 'contributed their share to the evolution of the Indus Valley civilization'. Still others hold the Harappa culture to be Vedic and find affinity between the Vedic and the Harappan languages. Even if the Aryans were not autochthonous to India, it is likely that they immigrated into India in several waves and the presence of the Aryans in West Asia about the 14th century B.C., vouched for by the Boghazkoy inscription, probably represents one, but by no means the earliest, such wave. No incongruity would thus be involved if the Bhārata war took place in the latter half of the 2nd millennium B.C. It cannot be gainsaid that our authorities assign different dates to this event; some placing it about the close of the 4th and others about the middle of the 3rd millennium B.C. We also come across certain statements which tend to refer it to the 2nd millennium B.C. However, the lack of unanimity about the date alone cannot be taken to indicate its unhistorical character. For, not to speak of such a remote event, the Purāṇas afford a confused chronology even about near contemporary happenings. To cite only one example, different Purāṇic traditions give the number of Āndhra-Śātavāhana kings as 17 or 18 or 19 or 30 and the total period of their rule as about 2¾ or 4½ centuries. But nobody has doubted the historicity of the Śātavāhanas on this account. It is true that the Vedic literature contains no direct allusion to the Bhārata war. But no value attaches to this negative evidence because the Vedas are not historical texts which may be expected to catalogue all historical events. Still references to some Mahābhārata characters are met with in later *Saṁhitas* and other early texts. Thus the *Kāṭhaka-saṁhitā* of the *Yajurveda* mentions Dhṛtarāṣṭra, son of Vichitravīrya, while Dēvakīputra (Dēvakī's son) Kṛṣṇa is named in the *Chāndōgya Upaniṣad*. The *Ṛgveda*, which contains no such reference, probably belongs to the pre-Bhārata age. Āśvalāyana and Śāṅkhāyana, who flourished before the 5th century B.C., refer to the *Mahābhārata* as a text while Pāṇini, who cannot be placed later than the 5th century B.C., gives rules for the formation of the name Yudhiṣṭhira and alludes to the devotees of Vāsudeva and Arjuna. Thus we start getting references to

the Bhārata war-heroes from the close of the 2nd or the commencement of the first millennium B.C., if not earlier. We have already seen that certain controversial chronological statements found in the Purāṇas need not necessarily be taken to disprove the historicity of the events described in them. It is not correct to state that Pāṇini was ignorant of the south and the east, for we actually find in the *Aṣṭādhyāyī* references to Aśmaka (iv. 1.173) situated on the Gōdāvarī in the South and Sūramāsa (iv. 1.170) which was the region watered by the river Sūramā in Assam. Still earlier, later Vedic texts also give evidence of familiarity, however slight, with the eastern and southern regions and peoples. There is thus nothing improbable in the chiefs of eastern and southern regions taking part in the Bhārata war.

Dr. H.D. Sankalia tries to reinforce this theory archaeologically. His main arguments are as follows: (i) The account of the Bhārata war presupposes existence of large states with fairly well-organised armies not only in present Haryana, Punjab, Sind, Gujarat, Sauraṣtra and Kutch but also in Uttar Pradesh, Bihar, Orissa, Assam and Kashmir. But archaeological evidence reveals that such large states did not exist at the time the Bhārata war is believed to have taken place. (ii) The *Mahābhārata* refers to weapons of iron which were not in regular use before the 6th century B.C. and unknown before 1100 B.C. Moreover, the weapons and tools in the 3rd-2nd millennium B.C. were very simple and if the Bhārata war is placed even in the 2nd millennium B.C. one will have to accept that the Great War was fought with insignificant looking microliths, small maceheads, sling balls of stone and terracotta (not more than 3" in diameter and 12 ozs. in weight). But these arguments are also not quite convincing. Pāṇini and the early Buddhist and Jain literature leave no room for doubt that well-organised states with fairly large extent did exist in the 6th century B.C. and there is sufficient evidence to indicate that at least some of these states had a long anterior history. The existence of fairly large states even during the later Vedic period is vouched for by the elaborate descriptions of such pompous ceremonies as *Rājasūya* and *Vājapeya* and the assumption of such grandiloquent titles as *sāmrāṭ* which is met with even in the *Ṛgveda*. Liberal gifts involving thousands of horses and lumps of metals called

niṣka to the priests described in the *Ṛgveda* also appear to refer to large resourceful states and not to petty chieftains exercising sway over a small tract equal to a village or taluka. Thus the presence of well-organised states with large areas during the second half of the 2nd millennium B.C. is not incompatible with the extant evidence. As regards the second argument, even if we ignore Ṛgvedic references to the metal *ayasa* (which is sometimes taken to mean iron) and cities and weapons fashioned from it which, of course, cannot be dismissed easily, excavations at Hallur (Karnataka State), Jodhpurā Rajasthan State and Eran (M.P. State) clearly show that iron was known in India during the first three centuries of the 1st millennium B.C. and there was nothing to prevent the people from making weapons out of it. Where is the necessity to assume that the Bhārata heroes fought with microliths and terracotta maceheads, etc., which might have been used for other purposes? If iron weapons of this period have not been encountered in good number by our archaeologists, it is because of the inadequacy of our excavations and not because of their non-existence. It is not unlikely that future large-scale excavations at properly selected sites may result in a rich yield of iron weapons.

It would follow from the foregoing discussion that no strong evidence exists to date which could disprove the historicity of the Bhārata war. On the other hand, as is well-known Shri B.B. Lal's excavations at Hastināpura, the site of the Kaurava-Pāṇḍava capital, seem to support its historicity.

The unanimous tradition and the popular belief based thereupon that the Bhārata war wherein Kṛṣṇa played a prominent part was fought long after Rāma has been challenged recently by Shri B.B Lal who thinks it likely that Kṛṣṇa preceded Rāma. This suggestion is primarily based upon his recent excavations at Ayodhyā which, according to him, do not indicate a beginning for the site earlier than the 8th century B.C. whereas the Bhārata war, in his opinion, took place in the 9th century B.C.[1] This view is sought to be reinforced by referring to the *Bṛihadāraṇyaka*

[1]Shri Lal appears to contradict his own earlier stand In his report on Hastināpura excavations he criticised H.C. Raychaudhuri's date for the Bhārata war, viz 9th century B C , as suffering from a shortening of the chronology (*Ancient India*, Nos 10 & 11, p. 149, fn 11). [See Shri Lal's note elsewhere in this Volume for his recent views—Eds.]

Upaniṣad where in the description of a discussion in the court of Janaka (Rāma's father-in-law) questions are asked about the descendents of Parīkṣit (a Pāṇḍava scion). But this surmise, which goes counter to unanimous ancient tradition about the precedence of the Rāmāyaṇa episode over the Bhārata war, is founded upon a very slender and unreliable evidence. First, as admitted by Shri Lal himself, the mound of Ayodhyā is very extensive and it is not possible to ascertain its real beginning unless excavations are carried out at about half a dozen spots. Secondly, in all likelihood Janaka was a family, not a personal name, and one need not be surprised if a Janaka flourished in Rāma's time and another in Parīkṣit's. Moreover, there is nothing to prevent two personages, separated from one another by a long interval of time, from bearing an identical name. Then again, the entire Rāma story is found narrated in the Rāmōpākhyānaparvan of the *Mahābhārata* whereas there is not even a single reference to any event or personage associated with the Bhārata war in the *Rāmāyaṇa* which, unless there was a conscious effort on the part of the ancients to prove the anteriority of a posterior event and efface all the extant evidence to the contrary, is more than enough to establish that Rāma flourished much earlier than the Bhārata war. This is also supported by the Jain tradition according to which Rāma and Kṛṣṇa were contemporaries of the 21st and 22nd *Tīrthaṅkars* (Naminātha and Neminātha) respectively.

It is not intended to aver that all the details about the war found in the Great Epic are correct. While the main story appears to be historical, there is considerable exaggeration in details many of which may be due to later interpolators. In our opinion both literary and archaeological evidences are equally important and one must not be discarded *in favour of* the other. If literary evidence is to be completely discarded, *entire pre-Aśokan Indian history will have to be dubbed as a* myth. It is only synthesising the two sets of evidence that we can expect to arrive at correct conclusions.

Ram Gopal

During the last hundred and fifty years divergent views have been expressed by eminent scholars in regard to the Mahābhārata and the Great War described in it. Several Western and Indian scholars have raised serious doubts about the historicity of the Mahābhārata war and advanced ingenious theories to account for the vivid description of the Epic war. For instance, J. Dahlmann and A. Ludwig who deny the authenticity of the Mahābhārata war interpret it as an allegory in which the Pāṇḍavas and Kauravas symbolize *Dharma* and *Adharma* respectively according to the former, but *light* and *darkness* respectively according to the latter. Similarly, some Indian scholars like N.V. Thadani and Lachhmi Dhar Shastri also attempt an allegorical interpretation of the Mahābhārata war. H. Oldenberg and some other scholars who regard many parts of the Mahābhārata story as later accretions put forward the view that Kṛṣṇa did not figure in the original story and was later on added to it. But this view has been contested by many Western and Indian scholars who pose the question: Will the story of the Mahābhārata be viable without Kṛṣṇa? C. Lassen, A. Weber and A.A. Macdonell propound the thesis that the original story of an ancient conflict between two Vedic tribes named Kurus and Pañcālas was later converted by a poetic genius into a great war between the Kauravas and Pāṇḍavas. This assumption is based on the circumstance that the Pāṇḍavas find no mention in Vedic Literature which often speaks of the Kurus and Pañcālas. Following this line of argument, B.C. Majumdar suggested seventy years ago[1] that the author of the Mahābhārata grafted the Kaurava-Pāṇḍava story upon an older story of a war between the Kurus and Pañcālas. Recently, a number of distinguished historians including Buddha Prakash, D.C. Sircar and H.D. Sankalia have again raked up the old controversy and questioned the historicity of the Mahābhārata war, relying on the trite arguments, such as (a) the non-mention of the Mahābhārata war and its heroes (especially Pāṇḍavas) in the earlier Vedic literature; (b) conversion of a petty Kuru-Pañcāla conflict into the Epic war; (c) lack of unanimity among ancient Indian astronomers and historians

[1] *JRAS*, 1906, pp. 225 ff.

about the date of the Mahābhārata war; (d) the use of rocks, trees, teeth and nails as weapons of war indicating primitive stage of civilisation; (e) absence of archaeological evidence; and (f) the mention in the Epic of foreign armies of the Yavanas, Pahlavs, Śakas, Hūṇās, and others.

Now let us examine these arguments one by one. The non-mention of the Mahābhārata war and its heroes in Vedic Literature is an *argumentem ex silentio* which does not carry much weight, for Vedic literature being religious in nature and content is not supposed to be a chronicle of contemporary events. Moreover, according to the entire Indian tradition and internal evidence of the Epic, the Mahābhārata war is regarded as later than the composition of the Vedic *Saṁhitās.* In keeping with this tradition, the Mahābhārata war is mentioned in the *Śānkhāyana Śrauta Sūtra* which, being one of the earliest *Kalpa-sūtras*, is considered as anterior to Pāṇini.

In the entire range of Vedic literature there is no mention of any conflict between the Kurus and the Pañcālas. On the contrary, they are often mentioned there as living together in complete harmony and forming a single people. Being impressed by this fact, even Weber, a staunch protagonist of *Kuru-Pañcāla* conflict theory, had to admit "Now at the time of the (*Śatāpatha*) Brāhamaṇa, we find the Kurus and the Pañcālas still in full prosperity and also united in the closest bonds of friendship as one people."[1] Afterthe *Śatapatha Brāhmaṇa* also there is no evidence of any conflict between the Kurus and Pañcālas. So the theory of Kuru-Pañcāla conflict is a mere figment of imagination. There is not a shred of evidence in support of this theory.

Although ancient Indian astronomers differ about the date of the Mahābhārata war, all of them are unanimous in regard to the historicity of this war. In this matter there is a discrepancy of 653 years between the calculations of two noted astronomers Āryabhaṭṭa and Varāhamihira—the former dating the Mahābhārata war in 3102 B.C. and the latter, following Garga, placing it in 2449 B.C. This discrepancy between their calculations might have arisen from differences in traditions, readings of texts, or methods of reckoning. Anyhow, differences of opinion about the dating of an event do not necessarily disprove

[1] Weber, *History of Sanskrit Literature*, p. 135.

its authenticity. For instance, no one has denied the historicity of Lord Buddha despite difference of opinion about his date.

As regards the argument that the use of trees, rocks, teeth, nails and bare hands by Bhīma as his weapons points to a very primitive stage of civilisation incapable of waging a great war, it has to be borne in mind that their use is very sporadic, while various types of advanced weapons and missiles are frequently mentioned in the *Mahābhārata*. Moreover, since the Aryan civilisation had already advanced beyond primitive stage in the age of the *Ṛgveda*, there is no basis for the assumption that a primitive stage of civilisation is represented in the *Mahābhārata*. Various types of weapons known to the Aryans in the age of the Vedic *Saṁhitās* could not have become extinct in the time of the Mahābhārata war. Besides, the advance of civilisation does not preclude the use of rocks, mace, trees, hands and teeth in war; for whatever is handy in a conflict can serve as a weapon.

As for the absence of archaeological evidence in support of Mahābhārata war, it may be pointed out that in the course of millennia most of the buildings and other things are often irretrievably obliterated by ravages of floods, quakes and climatic conditions. Moreover, it has to be admitted that the Epic descriptions of cities, palaces and armies cannot be considered as accurately factual free from poetic embellishments, exaggerations, later additions, or alterations; because even according to its own statements the *Mahābhārata* has undergone several recasts. Therefore, the original Epic has got to be sifted from its present bulk. It appears that the Epic portions alluding to the Chīnas, Pahlavas, Yavanas, Śakas, Hūṇas, etc, belong to the category of later additions. Besides, the original Epic also could not have been a matter-of-fact record of the war, for the original author must have used his imagination to present dry and dreary historical events in an attractive poetic garb. So every word of the Epic should not be literally interpreted and some allowance may be made for poetic fancy.

However, in spite of the admixture of metaphorical descriptions and later accretions, the whole of the Mahābhārata war which forms the nucleus of the Epic cannot be justifiably considered as a mere myth. For the Mahābhārata war and its heroes find frequent mention in a large variety of Indian works such as Vedāṅgas, Purāṇas, Dharma Sāstras, Mahākāvyas, lyrics,

dramas, inscriptions, philosophical and astronomical treatises and folk-lores representing various epochs of Indian history from at least 600 B.C. onward.

Moreover, a number of geographical names traditionally associated with the Mahābhārata war are easily identifiable beyond a shadow of doubt. It seems inconceivable that the entire Indian tradition stretching over a vast area of this subcontinent and even beyond should have been blindly accepting a mere myth as a historical fact for thousands of years. Unless there is irrefutable evidence to challenge the basis of an age-old tradition, its kernel cannot be outright rejected as a mere myth on account of certain poetic embellishments and later accretions attached to it in course of time.

B.P. Sinha

Scholars who deny the historicity of the Mahābhārata war actually put forward no uncontrovertible literary or archaeological proof in support of their *obiter dictum*. The fact that the later Vedic literature (whose authenticity is not challanged) refers to Victiravīrya, Dhṛtarāṣṭra, and besides Śantanu and Devapī raises a strong presumption in favour of their descendants—the heroes of the Mahābhārata war—also having actually lived and played their part. Attempt to ridicule the Purāṇic literature which corroborates the story of the *Mahābhārata* is self-defeating because the same Purāṇas are still very much utilised in reconstructing dynastic history from Bimbisāra onwards, and so their pre-Bimbisārian accounts must also, in spite of interpolations, contain genuine historical traditions which sometimes find corroboration from the authentic Vedic literature itself. Distance in time does not by itself make the account worthless as nearness to contemporary times does not make all present-day written or spoken words official or non-official necessarily trustworthy.

About the geographical knowledge the Mahābhārata times one need not be too conservative. Pāṇini knows the Suramā valley of Assam. Even *Ṛgveda* refers to *Dakṣiṇāpatha*; the

fact that iron was known in South as far early as 1000 B.C. leads to strong possibility that powerful kingdoms must have arisen there as every where else including north India on the basis of iron-technology. The reference to *adhirāja*, *mahārāja*, *ekrāṭ*, *sāmrāṭ* and institutions of *Aśvamedha* and *Vājapeya* sacrifices and actual mention of *Sāmrāṭ* like Janaka of Videha in the Vedic literature prove beyond doubt that larger kingdoms were already in formation from the Ṛgvedic times and the process must have registered much advance in the later Vedic times. In the wake of the knowledge of iron-technology the available transport facilities (chariots and roads) and opening of the country to the Deccan and the east (Aṅga, Vaṅga, Puṇḍra, Subma, Kalinga), it could be as easy or difficult for the heroes of the Mahābhārata war to go on a *digvijaya* or join in the war on one side or the other as it was for Samudragupta in the 4th century A.D., using the same iron-technology, weaponry (bows and arrows, swords and missiles) and transport vehicles (chariots and horses), to go as far south as Kāñcī and to overawe Kāmarūpa in the east.

Archaeological excavations have not disproved the historicity of the Mahābhārata war. Only a few of the Epic sites have been touched with some vertical trenches which may give a glimpse into the cultural sequence but do not reveal the total cultural picture of the time. Moreover real sites could have been missed by the archaeologists' spade. Had Marshall in these days of horizontal excavation spree might have stopped with obtaining cultural sequence by striking (by chance) at the workers quarter at Mohenjadaro, how poor would have been the picture of town-planning and monumental architecture of the Harappan culture? At Chirand from 1963-67, only Chalcolithic culture was found in the lowest strata on virgin soil, but in 1968 in one trench a full developed neolithic culture was struck by our spade. So, one cannot say what is being missed by the archaeologists' spade. Moreover, we cannot expect to find monumental architecture in the Mahābhārata strata as structures in the cities before Aśoka were largely of wood and mud-brick, which would not stand to-day in a recognisable shape. If Pāṭaliputra, consisting mainly of wood and brick work could compete with Persepolis and Ecbatana in grandeur in the 4th century B.C., the grandeur of Hastināpura or Indraprastha,

probably similarly built, as described in the Epic could not be necessarily only fairy tales. It has been already suggested that the limited vertical diggings in the few Epic-sites might not have touched the actual palace sites, or even noble's or warrior's house. This may partly explain the absence of iron weapons and tools in the excavations. Iron was a newly found metal and so must have been costly. The ruling classes might have, reserved it for *weapons.* Moreover, iron in the climate and soil of the Gaṅgā plains rusts or corrodes fast, and even at historical sites where iron must have been in much more common use, complete iron tools and weapons are found in very meagre quantity. So its limited discovery in the Epic strata need not make us think that the Mahābhārata heroes must have lived in mesolithic times as many stone or bone arrow-heads, missiles, stone or terracotta balls are found. Such objects continue to be found in abundance in historical and late historical sites as well. It is more reasonable to preseume that with the new iron-technology, old technology also persisted till late times.

The comparative lack of high cultural equipment in the Epic sites as excavated may also be due to the fact that floods, fire and frequent change of river-courses in the past as in recent times have totally or partially destroyed the main city-sites. Moreover it is a general experience that while religious sites persist to be re-built at the same spot, new cities and palaces are always built on slightly moved away spots. The example of Mediaeval Delhi should be an eye-opener. So it is quite likely that the exact locations of ancient city-complexes may not necessarily coincide with the actual position of the ancient city at the present site of the same name.

Archaeology to-day is, thus, not in a position to categorically reject the possibility of the Mahābhārata war. Actually the excavations at Hastināpura and Kauśāmbī, to cite for example, appear to make the story more probable than unreal as they corroborate some important episodes of the Mahābhārata times as B.B. Lal has shown. History of technology, knowledge of geography, the early literature and archaeology all if studied carefully without in-built prejudice would make it clear that there is no sound reason to reject the tradition which has held the country for centuries. When did the war take place? In our opinion the Mahābhārata heroes were aware of the use of

iron, and so the question arises when did Iron come into use in India. Iron was known in Hallur (Karnataka) in 1100-1000 B.C.; in Noh (Rajasthan) in *cir.* 900-800 B.C. and in Atranjīkherā (West U P.) in 1100-1000 B.C. So it is obvious that it was in use in India sometime before 1000 B.C., and its use need not necessarily be later in India than in Baluchistan or the Swat valley where the date of iron is placed in 1200 B.C. Knowledge of its use may have come to south India by sea route from the west, and north India by land route, or iron technology may have independently developed in India as in west Asia, due to availability of material and the socio-economic compulsions. It is interesting to note that iron as *śyāma* or *Kṛṣṇāyasa*, is mentioned in the *Atharvaveda* and later Vedic literary texts. The fact, that the references to superior kingship, or imperial status and to *aśvamedha* and *Vājapeya* sacrifices are more copius in the later Vedic than in early Vedic literature, may suggest more than casual relation between race for empire-building and the development of iron-technology. Its discovery and advantages of its use may have been at once pounced upon by the military ruling classes, which may have at the first intance restricted its use for military purposes, and this may expalin meagre references to iron tools and vases in the major part of the Later Vedic literature and also in excavated sites of common people's habitation. Probably the *Śatapatha Brāhmaṇa*, one of the latest of the Brāhmaṇas, mentions iron vessels first. Taking the literary evidence critically the Mahābhārata war could not have been found earlier than the last leg of the later Vedic period. It was certainly over long before Pāṇini (who knows the Epic and its heroes) and before the Buddha.

The Mahābhārata heroes fight generally from chariots or from elephants' back. No hero is found fighting on horse-back. Though in the Epic the cavalary is mentioned together with chariotry and elephantry as limbs of the army, the description is mere conventional and may have been an interpolation. The Vedic literature (early and late) knows of chariotry and elephantry as army-limbs but horse-men soldiers are conspicuous by absence. So the Mahābhārata war belongs to the time when cavalry was not in much use in war or popular with nobility. But in the 6th century B.C. cavalry was popular with nobility and royalty. It is significant that Gautama Buddha left the city

on horse-back, but Rāma left Ayodhyā on chariot. Cavalry was used first as an important wing of the Assyrian army by the later Sargonids and so could have become popular in India only after 8th century B.C. Thus the Mahābhārata war has to be placed earlier.

On the basis of average of reigns B.B. Lal places the event in 836 B.C., R. Smith in 975 B.C. and Pargiter in 950 B.C. No one can be very exact with the averages. The Purānas say (with variant readings) that 1015, 1050 or 1500 years elapsed between the accession of Mahāpadma Nanda and birth of Parīkṣit. The accession of Mahāpadma Nanda may be taken to be 364 B.C. and so birth of Parīkṣit is to be placed, even if we accept the youngest Purāṇic date (variant reading), in 364+1015=1379 B.C. This according to me is too early a date for the Mahābhārata war not only on grounds of very high averages for reigns, we would then have to accept, but also because it goes against the archoeological evidence of dates for early iron and its associated wares, such as the Painted Grey Ware, so far obtained. The problem can be simplified if we take this Parīkṣit to be Parīksit I, and not Parīkṣit II, grandson of Arjuna, the hero of the War. If it is Parīkṣit I whose birth was 1015 years earlier than accession of Mahāpadma Nanda, then Parīkṣit II son of Abhumanyu, 24 generation later, then Parīkṣit-I can be placed in 1379−288 (24×12)=1091 B.C. (average of 12 years for each generation) and so the Mahābhārata war would have taken place in the 11th century B.C., say *cir.* 1050 B.C.

This date is quite consistent with the archaealogical evidence about iron and PG Ware. Iron was in use by this time, and the PGW's earliest known date goes to 1100 B C. or even earlier. In our opinion the PG Ware is Mahābhārata time's pottery. It may be of some significance that it is concentrated in Western U.P. down to Kauśāmbī, and does not go further east (Vaiśālī's reported pieces are of a much late date, these are not real PGW sherds as Dr. S.P. Gupta has rightly pointed out) It is in this connection important to note that Pargiter had suggested that the Ailas entered India from the mid-Himalayan region and Ayodhyā and Vaiśāli were beyond the perview of the Ailas. Pargiter has wrongly identified the Ailas with the Aryans in general. In our opinion the Ailas represent a later (Aryan?) wave which ultimately so profoundly dominated the political

and cultural scene that they almost determined the format of popular cultural traditions, political ideals and even influenced the character of later Brāhmanism. We suggest that *the* PGW *was the distinctive pottery of the Ailas*, which explains the former's distribution and also its comparative absence from Ayodhyā (as reported by B.B. Lal). The PGW continued to be the dominant pottery of the region till quite late as Allahpur evidence would suggest. Old traditions die hard.

K.V. Soundara Rajan

The term Bhārata is the eponymous name of one of the very progenitor dynasties of *Bhārata-varṣa.* The war of Bhārata Epic, called also Mahābhārata, was clearly an event of the greatest important in ancient chronicles. The Epic itself, even in its core, would have been recorded (either orally first and literally later, or by a scribe even coevally) *after* the *actual* passing away of the event and the chief personalities of the drama. As such, Bhārata, the person, Bhārata was and Mahābhārata, the Epic, are in successive chronological stages. Of these, we seem to know, from the chronological point of view, something about the last—as a work which had become a tradition already in the B.C.s of the Christian epoch. We have evidence to show, that the work was most probably Pre-Buddha. from a reference to *'Itihāsa-Pañcama'* in *Ambattha sūtta* of *Digha-nikāya.* With such a limited range of evidence on the work, we have necessarily to depend upon other sources for pushing backwards into times, to reach that stratum of time when the Bhārata war itself would have taken place. It would be presumed from the *prima facie* data of the king-lists, the positions of Māndhātā Sagara, Kapila, Bharata, Rama-Dāśarathī, Śaṅtanu, Yudhiṣṭhira, etc., that the importance of Bhārata rose from a certain view-point, and the Epic and the battle was later contributing to it. The Kurus were the people who lost this Epic battle. Seemingly, the Kurus were opposed by an equally powerful group with whom the all-important personality of Kṛṣṇa-Vāsudeva was also associated. On the basis of archaeological evidence so far available, a set of *low* dates, like the very beginning of the 1st millennium B.C. for the Kuru

war (Bhārata battle), 566 B.C. for the Buddha, and around the beginning of the 5th century B.C., for the full urbanisation of the Gangetic valley, is already almost unanimously available. It is, therefore, not likely to be gainsaid that the Epic-battle and the core of the Epic definitely belonged to the beginning of the 1st millennium B.C ; and the *succeeding* events are, therefore, liable to get firmer. The main issue is whether a truly *older* date than 1st millennium B.C. for the Epic or its event could be sustained. For this, we should also explain when certain other *earlier* events had the firmest probability of having occurred. These are the Vedic data. Now, it is at once to be mentioned that in the Boghazkoy record, we have a fairly dependable information on the knowledge of the Vedic gods in that region and around the 14th-15th century B.C. The implication of this would be: (1) that the Vedas could, by and large, be earlier than that; and (2) that they had a fairly wide prevalence in some form or other, *outside* the limits of India. This, in turn, meant that what took over the Vedic folk in India was only a stage in their activity, namely the actual composing of the hymns.

A. It is interesting that, archaeologically speaking, the period around the Boghazkoy records, was a point of transition from the Bronze Age into Iron Age. The Hittites were the first to exploit iron around the 13th century B.C. Even if we should not agree that there should have been only *one* nucleus for the first exploitation of iron for areas both in and outside India, we should consider that in the 14th century B.C., there should have been acceptable links available between the Hittite area and the upper Indian zone, especially the north-west India, by way of the religious usages Thus, we should attempt to resolve the cultures that would have linked these two zones by way of both religious cults and Iron exploitation. In the latter, we have definitely no evidence yet in north India that would take back the advent of iron beyond the very end of 2nd millennium B.C. or the very beginning of the 1st. Certain aspects of Iron Age stages of Ahar are now being averred as likely to be placed in *c.* 1700 B.C. on the basis of data recorded by the excavators themselves. If so, this, to say the least, introduces the possibility of Iron Age almost coeval with what is holding good for Boghazkoy and the Vedic context. This needs careful checking, therefore, of the Ahar data involved (Information

from Chandigarh Seminar of Indian Prehistoric Society, December, 1975). On the other hand, the very reference in Vedic hymns to certain battles that have taken place, give perhaps the best clues to the stratification of Vedic religions spread over India and West Asia. While some of these battles, as that of Hariyūpiyā, should clearly relate to Indian monuments like Harappa, others, as those of the battle with Śambara, may not.

This leads us to the important possibility that some of our legends (and the myths garnishing these events) relate to those stages of the events which, strictly speaking, had taken place *outside India*, in far off times, and are thus, only vicariously being remembered and overlapped with firm Indian Epic landmarks, in later periods, starting from the 1st millennium B.C. or slighly earlier to it. Hence, the dating restricts itself mainly to what would be an archaeological link—relationship in pre-1000 B.C. stages in India and West Asia. This is, strictly speaking, liable to belong to the chalcolithic period only. It is interesting also to note, by this avenue of reasoning, that while Kṛṣṇa-Vāsudeva would indeed have been an essential personality *within* the Indian region, Rāma-Dāśarathī might not have been so, and might as well be part of an extra-Indian core-event. This explains also how the story of Yayāti and his five sons is itself merely the skeletal summary, in the Mahābhārta epic, of the various ruling groups mentioned elsewhere as reigning in certain areas, in Vedic as well as Epic evidence. The *Daśarajña* battle and other events mentioned in the Vedic, thus, could very well have related to regions immediately beyond India in areas where the Vedic cults had been propitiously prevalent. From this point of view, it would be futile to search for Rāmāyaṇa figures like Rāvaṇa, within India, since the Indian Rāma story might have, perhaps, been only the shadow or reflection of an original event or fact, pertaining to a different region. The literary evidence already puts Janaka-Yājñavalkya-Daśaratha, etc., on a coeval footing, and even the legends connected with Sītā, as born in the furrow of the earth, have elements of the formative periods of the concerned region. Archaeolological evidence of the earliest stage, coeval with the late stages of the Vedic, and prior to the Bhārata epic, would more plausibly fit into such a pattern.

B. The Gaṅgā valley has produced two archaeological elements, the Copper Hoards and the Ochre-Coloured Pottery which tend to fit into this scheme. The latter, in certain respects, bids fair to be coeval with Harappan stages and has the merit also of not occurring *too far west* but mainly in the northern part of Rajasthan, eastern part of Panjab, Haryana and adjacent areas of U.P. Archaeologically, thus, it would be worthwhile to know more about the O.C.P. men, their relationship with the varying succeeding stages in both the Panjab-Rajasthan area, and the U.P.—Bihar areas. This clearly means that, on the one hand, with the help of the king-lists the Brāhmaṇa literature and the Vedic battle references, a comparative chronology of the Indian and the adjacent overland border countries of West Asia, would have to be worked out and, on the other hand, this will have to be compared with the archaeological sequence in north-west India, in the Harrappan, Post-Harappan and P.G. Ware, upto the advent of Iron.

The early sequence, in terms of archaeological cultures in the Panjab, Rajasthan, Haryana and U.P. are as follows :

Rajasthan	*Panjab and Haryana*	*Uttar Pradesh*
(Kalibangan, Noh, etc.)	(Ropar, Bara, Mithathal, Daulatpur etc.)	(Alamgirpur, Atranjikhera, Hastināpura, etc.)
P.G. Ware	*P.G. Ware*	*P.G. Ware*
Harappan	Late Harappan	O.C.P.
Pre-Harappan	Harappan	
	Pre-Harappan	

Everywhere, after OCP, or at the end of the Harappan States, as the case may be, there is a habitational break, desertion, disconformity or levelling, before the P.G. Ware starts. Can this mean the PG Ware people, whoever they were, broke new grounds in the Rajasthan, Panjab and West U.P. area after the Harappan in the first, and O.C.P. in the last ? Panjab alone gives a complicated picture at present but is the most vital area for this problem. Of course, the introduction of Iron for the first time and with it a new socio-economic phase might be closely linked with these changes. Whether the Epic (*Mahābhārata*) period had any such beginnings is first to be proved on its own internal literary evidence, independently of the habitational evidence, in order to connect the Epic (*Mahābhārata*)

with PGW. Otherwise, the PG Ware associated with the Gangā valley, as at Hastināpur, etc., might turn out to be a later phase of this culture, whose earlier phase and its status might call for fresh enquiry. This and the limited thesis presented under section A above, would seem to show that the Iron Age transition might, in many respects, have great relevance for the changes in India in the Post-Harappan stages and more especially as related to the 'Vedic' and the 'Epic' periods. It has yet to be proved as to whether or not the 'Vedic' period itself saw the emergence of Iron. Its own internal evidence is somewhat dubious linguistically, with a possibility of the knowledge of iron along with copper (*Lohitāyas* and *Kṛṣṇāyas*) vaguely indicated. Plausibly, there could have been two phases of Iron Age—and early phase, *still* associated *with the* 'Vedic' stage (in its later contexts), and a succeeding full fledged Iron Age, associated with the 'Epic' phase. The literary stage of the 'Brāhmaṇa' literature is clearly a bridging phase between the two, on its own strong indication of the use of iron.

C. The phenomenon of Gods associated with mortals is another feature recurrently seen in our legends and myths. A stratification of this process is possible among the Purāṇic events. This will itself be facilitated once the Rāma-Daśaratha and Kṛṣṇa-Vāsudeva horizons are fixed satisfactorily. We would indeed then be closer to the integration of archaeological with the literary data in an effective way. Rāma is, at all events, by the literary as well as other *prima facie* evidence, anterior. The *Rāmāyaṇa* Epic is itself in a more formative garb—as a narrative and in its scenario, than the *Mahābhārata* Epic, across which later Kṛṣṇa-Vāsudeva stands stridently. The demons and demonesses like Tāṭakā, Śūrpaṇakhā, Mārīca, Subāhu, Kabandha, etc., not to mention super-human exploits, as of Hanumān, are of an ilk sharply in contrast with the absorbingly realistic narrative course of *Mahābhārata*. Of course, Kṛṣṇa's exploits in the Epic smack often of the supernatural but even then there could be a symbolic explanation immediately at hand for these often. Miracles are mostly out of court n the *Mahābhārata* Epic. Elements of warfare also are more sophisticated in the Mahābhārata narrative.

When we consider these with the strictly functional reference to divinities and other topics in the pre-Buddhistic or

pre-Mahāvīra period, as in Pāṇini, we find that what had been totemistic groups in earlier periods had been visualised in blatantly non-human and super-human concepts in later periods. Pāṇini had a brother Vyāḷi who had also contributed his mite to the commentraries on the Early Vedic and Brāhmanical literature. The name had become virtually an art motif in later times and come to stay, in a different foım than the Nāga *clan* to which Pānini and Vyāḷı belonged. Thus, it is obvious that the miraculous picturisation of a basically mundane form or event had been a super-imposition because, in a later period, the myth as well as the literary label been integrated and adopted as the final story. The earlier kernel of the story, because it was obviously removed both in space and in time, had recieved this transformation. The *psyche* of the Indian had been sharply different in *Rāmāyaṇa* and *Mahābhārata*, and the former is more formative, therioanthropic, totemistic and atypical, while the latter depicts the developed socio-political and religio-cultural equipment of the period. If *Mahābhārata* itself is fairly to be considered as pre-Buddha and perhaps pre-Mahāvīra, then *Rāmāyaṇa* and specifically Rāma-Dāśarathi should be still earlier. If so, do we really have, even by the token of P.G. Ware association of the *Mahābhārata* Epic, any change of an earlier penetration of the Gaṅgā valley in the time of the Rāmāyaṇa? How will it tie up with the fact that the deep central part of the Gaṅgā Valley in Bihar presents the provenance of the story, as it has come down to us? Of course, Kekaya *deśa*, in far N.W. India is mentioned, which lends a certain fortuitous link between Bıhar and far N.W. at that time. Can we even envisage any period before Mahābhārata times during which this link would have been possible? Again, we might draw a negative reply. If so, eıther one should be in a position to place the story in Bihar and yet in an archaeologically pre-P.G. Ware stratum in a consistent pattern, without any preconceived notions about the antıquıty of *Rāmāyaṇa*, or we should take the Epic version of the story as not likely to be connected with Bihar at all originally. As we know the nature of the cultures in Bıhar datable prior to the P.G. Ware at Sonepur, Chirand, etc., we must try to see if these antecedent cultures can give us the context of the Rāmāyana story. Only excavation of sites at or near the very places associated with

Rāmāyaṇa story like Sriṅgīverapura, etc., might give a lead for furtner enquiry, if not any firm solution, in themselves. In any event, we do not at present have any basis for indubitably fixing the chronological sub-stratum of the 'Rāmāyaṇa Epic' *on the ground.*

U V. Singh

The historicity of the *Mahābhārata* has long since been a debatable point and so also its date. During recent years very little new material, both archaeological and literary, bearing on the problem has been brought to light. Thus, although the controversy has been revived, it is not likely to have any impact on the minds of the people in general, for as pointed earlier there is no sufficient data against the well-established traditions of the *Mahābhārata*. However, it is hoped that the revival of this controversy will definitely highlight the weaknesses of our researches and stimulate scholars (Sanskritists, historians and archoeologists) to make a concerted effort to find out the reality. In the following pages an effort has been made to discuss briefly the nature of the available evidence, both literary and archaeological, about the *Mahābhārata* and also to point out the major problems requiring the attention of scholars to get more evidence.

It has sometimes been contended by scholars that there were no large kingdoms at the time of the Mahābhārata. The early Buddhist literature, however, refers to sixteen *Mahājanapadās* of northern India. The flourishing period of these *Mahājanapadās* ended in or about the 6th century B.C. as is known to every student of ancient Indian history. Thus, if the great kingdoms were in existence in their prime in the 7th century B.C.; the possibility of the existence of these kingdoms in their early stages, about a couple of centuries earlier than the 7th century B.C. cannot be ruled out. Moreover, many *janapadās* have been mentioned in the *Epic* and also in the *Purāṇas*; some of them were as old as the *Ṛgveda*.

As regards the archaeological evidence of the Mahābhārata

age, we have to identify this with one of the cultures know from the region, Gangā-Yamunā divide, mentioned in the main story of the *Mahābhārata*. Two of these, belonging to the pre-Iron Age, i.e., the so-called 'O.C.P.—Copper Hoard Culture' and the so-called 'Late Harappa' or 'Bara-complex', cannot be identified with that age, as the epic refers to weapons of iron. The remaining one, namely, the Painted Grey Ware Culture, whose remains have been found in most of the sites mentioned in the *Mahābhārata*, has been rightly identified with that age by Prof. Lal.

As regards the beginning of the Painted Grey Ware at Hastināpura, Prof. Lal has placed it around 1100 B.C. However, according to Dr. D.P. Agrawal, the available Carbon-14 dates do not take the beginning of the Painted Grey Ware to a date before 800 B.C. But two Carbon-14 dates from the mid-levels of the P.G.W. deposits at Atranjikhera and Noh (1025 ± 110 B.C. and 820 ± 225 B.C. respectively) point to a still earlier beginning of the P.G W. phase and corroborate the date of the beginning of the Painted Grey Ware arrived at by Prof. Lal. These Carbon-14 dates may also require MASCA correction, which will slightly push back each of the given dates. The occurrence of a few sherds of Painted Grey Ware in a far flung site, namely, Besnagar (Vidisha, M.P.) in the upper levels of the Chalcolithic deposits, according to the excavator, suggest contemporaneity, at least in that region, of the P.G.W. with the later phase of the Chalcolithic culture. This evidence from Besnagar also suggests an earlier date of the P.G.W.

The beginning of P.G.W. seems to have been much earlier in the Sarasvati valley where iron has not so far been reported from the P.G.W. levels. Thus, in the present state of our knowledge, the possibility of the existence of a pre-iron phase of P.G.W. in the area cannot be ruled out. It pushes back the biginning of the P.G.W. to the fourth quarter of the 2nd millennium B.C. (if not slightly earlier).

As regards the comparison of the material equipment mentioned in the *Mahābhārata* with that of the equipment found in the P.G.W. deposits, we are not in a position to establish a convincing correlation. Before making such an attempt it is necessary to ascertain the original portion of the *Mahābhārata* and the material culture reflected in it. Unless this is done,

any attempt for its correlation with the archaeological evidence will be futile. Moreover, the archaeological evidence is also very meagre, as it has so far been derived from, by and large, the restricted excavations conducted in about a dozen sites. Sometime back it was known that P.G.W. belonged to a pre-Iron Age and the evidence of iron was known only from the upper levels of the P.G.W. deposits at Hastinapura in the form of slags. But later excavations proved the existence of the iron throughout the P.G.W. deposits at a number of sites, such as Ataranjikhera. We do not know what is still lying buried. Only large-scale horizontal excavations on a number of sites associated with the Mahābhārata story may bring to light sufficient evidence to prove the potentiality of that age to wage such an epoch-making war.

This is the nature of the evidence, both literary and archaeological, available for the period and as has been pointed out earlier, it does not warrant us anything positive comment on problems like the historicity or the magnitude of the War. In order to throw welcome light on the problem, firstly, let the scholars find out the original text of the *Mahābhārata* out of its present enormously enlarged size. Secondly, in order to know the material culture of that time and war potential of the people we require large-scale horizontal excavations on a number of sites associated with Mahābhārata. Thirdly, a number of Carbon-14 dates from different sites are necessary to substantiate the Carbon-14 dates of pre-800 B.C. available from Atranjikhera and possibly Noh. This will definitely help us in revealing the truth of the age old tradition to a great extent.

R.P. Sharma

In the present controversy over the historicity of the Mahābhārata, possibly archaeology plays the dominant role. Being an archaeologist myself, I would like to make a few suggestions on the basis of a vailable archaeological evidence.

To begin with, Hastināpura and Kurukṣetra are the two places, which should be taken as the 'primary' sites of the

Mahābhārata period, since without them we cannot conceive the Mahābhārata story. The sites of Barnāwā, Bairāṭa, Pānīpat, and several others, are to be considered as 'secondary', since they are connected with subsidiary episodes of the complex-plot of the story. Obviously, for purposes of determining the cultural horizon of the period of the Mahābhārata War, we have to rely more on the primary sites than on the secondary.

The sequence of archaeological cultures at the two primary sites of Kurukṣetra and Hastināpura is as follows:

Kurukṣetra Region (Haryana)	*Pañcāla Region* (western U.P.)
Type Site: Bhagwānpurā	Type site: Hastināpura
Historical	Historical
N.B.P. Ware	N.B.P. Ware
Painted Grey Ware } Overlap	Painted Grey Ware
Late Harappa Ware }	Ochre Coloured Pottery
Late Harappa	

The sequence of cultures detailed above shows that the lowest cultures in the regions of the primary sites are different from the one proposed by Prof. B.B. Lal; they are Ochre Coloured Pottery and Late Harappa Ware and not the Painted Grey Ware. At Bhagwānpurā, however, the Painted Grey Ware appears to have overlapped with the Late Harappa Ware but only at a late stage. It shows that in the actual locale of the Mahābhārata War, during the early stages of the settlement i.e., of the time of the Late Harappan Ware, the Painted Grey Ware was not in existence.

In Archaeology a homogenous group of pottery is usually considered as representing a homogeneous group of people, at least culturally. Not that it is an absolutely fool-proof method; in fact this is least scientific, but then in the absence of any other criterion, this is resorted to and it is not always wrong either. In our everyday life we do see marked differences in pots and pans, including decorations on them, used by Maharashtrians, Tamilians, Punjabis and Bengalis. The significant point to note is that even when they go to live in areas far beyond their States they carry and also make future purchases of the utensils they have been using in their Home States. Thus, if we apply this methodology in order to solve the present riddle, an absolutely new picture emerges.

Archaeologically speaking, during the second half of the second millennium B.C. most of the north-western Rajasthan and Haryana was inhabited by a people who used Late Harappa Ware while most of the western Uttar Pradesh, including parts of north-eastern Rajasthan and north-eastern Haryana, was inhabited by a people who used Ochre Coloured Pottery. Their intermingling has been attested in the over-lapping regions of north-western Uttar Pradesh at sites like Āmbkhedi. I would, in the light of these archaeological facts, like to make the following proposition.

Historical studies show that the real enemity existed between the Kurus and the Pāñcālas, from the Later Vedic period itself, and not between the Kauravas and the Pāṇḍavas. The epic brings in the Pāṇḍavas but any student of history can easily see that the strength of the Pāṇḍavas rested in the strength of the Pāñcālas. In fact, the actual battle was fought between these two forces. In terms of pottery, the Mahābhārata War was fought between the users of Late Harappan Ware, i.e., the Kurus, and the users of the Ochre Coloured Pottery, i.e., the Pāñcālas. The Painted Grey Ware is a later entry into the arena; it was a post-war phenomenon. In western region it over-lapped with the L.H.W. at Bhagwānpurā at a late stage, in the eastern region it appeared after the O.C.P. This proposition would indirectly support the views of D.P. Agarwal on the one hand, that the beginning of the Painted Grey Ware has to be paleed in the eighth century B.C. and K.C. Varma and S.B. Roy on the other, that the Mahābhārata War is likely to have taken place in the fifteenth century B.C. In other words, there is a possibility that the Painted Grey Ware had nothing to do with the period of the actual Mahābhārata War. The wares *which belonged to this period are the* Late Harappan Ware and the Ochre Coloured Pottery.

Jagdish Chander

It is now almost a settled fact that the Mahābhārata is not the work of one author nor it has been composed at one time. One would, therefore, be by-passing these facts if one boldly

gave one fixed date, either of the war or of the epic which is now considered to have passed through the hands of at least four authors.[1] Moreover, we have to keep in mind not only the astronomical positions at the time of certain events which find mention in the epic but also that the *Māhabhārata* and the *Rāmāyaṇa* before they were put in writing by the great poets, were known in the form *rhapsodies*, tales, *Ākhyānas or Upākhyānas*. This point has been elucidated by Western scholars, such as E.W. Hopkins[2] as well as by Indian luminaries[3], such as C.V. Vaidya.[4]

2. Again, the epic has been interpolated, altered and enlarged by successive writers and one of their aims may have been to make it an instrument for the spread of Vaiṣṇavism.[5]

3. Last but not the least we have also to keep in view the manner of birth of the chief characters of the epic which has made many people doubt its historicity.[6]

4. Furthermore, the point which raised the current controvery about the epic, viz , whether the small field of Kurukṣetra could accommodate crores of soldiers with all its supply lines is not to be forgotten to be explained.[7]

For the sake of convenience and current interest, we will like to take the last two points first. We are of the considered opinion that the mythological narratives of the birth of the Kāuravas and the Pāṇḍavas themselves point out that these names refer not to any particular historical persons bearing these names but to certain characteristics of the men of a particular era of the past history and the great writer of the epic has made a beautiful attempt to picture unto our mind the conditions prevailing then just as so many writers have, even in our day,

[1]C.V. Vaidya: *The Mahābhārata. A Criticism*, p. 1.

[2]E.W. Hopkins: *The Great Epic of India*, pp. 3 6-397.
M. Winternitz: *History of Indian Literature*, pp 314.

[3]B.G. Tilak. *Gītā Rahasya*, pp. 535.

[4]C.V. Vaidya: *op. cit.*, p. 17.

[5]Adolph Holtzmann: *The Mahābhārata and its parts*, pp. 163-165; also E.W. Hopkins, *The Religions of India*, pp. 390; and Sukthankar, *Sukthankar Memorial Edition*, pp. 334.

[6]*Mahābhārata*: Adi Parva.

[7]Indian Express, dt. the 15th Sept. Ref. Report of D.C. Sircar's press interview at Poona.

used such a literary style and conversational form[8] to draw our attention to mean and matters of the day. But, even as such writings to-day tell the tale without clearly and openly identifying the persons, so the foundation of the whole *Mahābhārata* also is not laid on empty imagination: it refers to certain facts of history though sometimes it gives distorted, enlarged, dim or overlapping image of it. The mention of Dhṛtarāṣtra and Kuru in ancient literature without the mention of the name of the Pāṇḍavas, and the existence of a separate Pāṇḍava epic, as mentioned by Paṇini would corroborate our view that the violent war of the Mahābhārata was fought among body-conscious, greedy, unscrupulous '*Kauravas*' (a metaphorical name, of course) and a war against the baser mental propensities was fought by the *Pāṇḍavas* whom the *Gītā* was discoursed not in the limited field of Kurukṣetra, that happens to be in Haryana, but in the far vaster fields of India.

Considered in this light, the whole controversy about the historicity of the war would be set at rest if we keep in mind that the Mahābhārata war, in which number of people were killed and in which sophisticated war weapons were used, refers to a war that took place over a far wider area than the small fields of Kurukṣetra, which because of its having been a place of many battles, has lent, by its very name, a war-like beginning to the story. And another non-violent war was fought by the Paṇḍavas against their own base emotions. Our this view would reconcile the view of those who, like Mahatma Gandhi,[9] do not believe in the historicity of a violent war having been waged after such a divine and high moral discourse as the *Gītā* had been delivered, with the view of those who think that, after all, there must be some basis to this epic which has been held in great esteem by people over the countries.[10]

We shall now explain the third point, namely, the similarity between or the identity of the verses of the Upaniṣads and the *Mahābhārata*. Reference to the first point, namely that

[8] N.C. Kelkar wrote *Swarājya Kathā* between Sauti and Śaunik to explain the political conditions then. The *Hindustan* (Hindi), published from New Delhi, has such a feature in its Sunday editions, under the caption 'Nāradji Sandeśa Lay'

[9] E.W. Hopkins: *G.E.I.*, pp 399.

[10] M.K. Gandhi. *Gita Bodh*: Introduction, p. 1.

the *Mahābhārata* and the *Gītā* were known to Indian tradition even before they were written down, would explain the fact that some Ṛṣis drew upon those traditionally and orally known doctrines and ethical teachings to give them the form of early Upaniṣads while others, a little later, compiled and edited them in the beautiful form of the *Gītā*. By explaining the similarity in ideology and phraseology to the common source of knowledge handed by tradition, we naturally imply that the *Mahābhārata* epic was written much later than the Mahābhārata war was fought. Hence the difference in the dates assigned to the Mahābhārata event and to the epic by various authors.

We are of the opinion that those who assigned to it a period about 3000 B.C.[11]; point to the time when the war took place whereas others who give a much later date, such as 300 B C. or 400 B.C. on the basis of: (1) the archaeological findings such as the form of inscriptions at Besnagar, Ghāsundī or Nānāghāṭa; and (2) the mention of Vāsudeva and Arjuna by Pānini or to mention of Kṛṣṇa the disciple of Ghora Angīras in *Cāndogya Upaniṣad* mainly refer to the time of composition of the epic by its first or second author. Our this view also explains satisfactorily why archaeological excavations have not yielded any iron weapons of war to substantiate that any such big war took place some 5000 years ago.

G.N. Pant

Prof. Sankalia has raised two very vital issues in the controversy over the Mahābhārata war; they concern the weapons of the war and the nature of warfare. Broadly speaking, he is of the opinion that on both the counts the so-called war was of very primitive kind, resorting mainly to combat in which physical strength and personal valour counted much more than anything else. The weapons of war were of extremely simple types since the real sophisticated ones mentioned in the Epic are absolutely mythical; their existence could not be proved either by

[11]C.V. Vaidya, Rajaram Shastri, and others hold this view.

archaeology or by sculptural representation or by actual specimens belonging even to the first millennium A.D. not to say of the earlier millennia. In this connection I would like to draw the attention of Prof. Sankalia to the references which point out the use of chariots, projectiles, hurling weapons, siegecraft, armours, etc., in more or less the proportion they were used in the medieval period. The horses and the elephants were used in the eighteen day war. Certainly, numerically their combined strength was much less than that of the foot-soldiers but that has always been the case in the past.

Further, what about the *chakravyuha*? Was it a myth? Was it of a very simple kind? Could we quote any example from history and ethnography both in which the 'tribal people' have been able to plan out a battle array like this for their warfare? Sixteen years of my serious studies of these subjects have completely failed me to produce any reference of this kind. My own feeling is that it was a very sophisticated type of planning and therefore, the Mahābhārata warfare cannot be dubbed as 'tribal'. I beg to differ from Prof. Sankalia as well as Prof. D.C. Sircar on this issue on the following grounds.

I would like to draw the attention of these scholars to the ethics of the Hindu view of life also in this context. The Mahābhārata war is called *dharma-yuddha* even though it was fought for political reasons. Evidences of *Kūta-yuddha* are no doubt, available but obviously not much of the *Cāṇakya-nīti* or Machiavellian tactics were employed. A few instances of deceit like Yudhiṣṭra's telling a lie or Bhīma's hitting Duryodhana below the navel are exceptions and not the rule of the war. Intellectualism in planning the *cakravyūha* (and other *makara*, *pipilika*, *hasti vyūhas* as well) and ethics in day to day warfare marked the Mahābhārata as much as the personal valour of the heroes since the usual concept of a 'hero' is that he is physically omnipotent. The combats between one hero and the other have necessarily been shown. Let us not be misled by such references in evaluating the nature of the Mahābhārata war.

History is a very peculiar subject since at every stage of its writing a historian may be seen evaluating the past and while

[11]Dr. Radhakrishnan, R D Ranade, R G Bhandarkar, Winternitz and others hold this view.

doing so, it has often been seen that inadvertently he has used some yard-stick which is applicable either to the present or to the recent past or to some other time and situation but not to the time of actual happening of the events Something of the kind seems to have happened in the case of the Mahābhārata war also by even renowned writers I make a strong plea to guard onself against this tendency

With this much of my basic approach to the problems raised by Prof Sankalia I come to a few details of the weapons of war used by the warriors

It has often been alleged that the bows and arrows were primitive weapons since these have been closely associated with the prehistoric men or aboriginal tribes It may, however, be pointed out that in India right from the Stone Age till 1857 when 'arrows were showered by the Indian rebels on the company soldiers', bows and arrows have been used The standard of archery was very high in the age of the *Mahabhārata* where several names for bow (*dhanu, kodanḍa, druna, chāpa, sarāsana*), for a arrow (*isu, arāmukha, narācha*), quiveers and bracer are given The blazing and flaming arrows, like the *naft* and *khadanga* of the Arabs, used in India in the 10th century A D, were steeped in oil A bow was composed of a stout staff bent into a curved shape Bamboo, cane, horn and wood were commonly used for staves *Ajagava* or *Pināka* of Śiva, the *Śarnga* of Visnu and the personal bow of Krṣna were made of horn, *Gandiva* of Arjuna was of bamboo while the *Vijaya* of Karna was forged out of metal Three principal materials had been recommended, viz, iron, horn and wood, and each had been further divided into several categories In the group of 'iron', gold, silver, copper, black iron and oily iron have been included Among 'horns' the best ones were those of the buffalo, *Sarabha* (a Kasmiri animal) and stag The woods preferred were sandal, *sala*, cane, *kukubha*, *anjana* and bamboo Nowhere in the pre or proto historic times horn bows were used and this 'horn bow', in all probability, was a link between the simple wooden or bamboo bows of prehistoric times and the composite bows of the historical times The horns were bent the reverse way of the natural curve In this manner the reflex bows were made The 'primitive' people, in any part of the world, have never shown so much excellence Then there were silk or cotton threads, sinews of

deer, entrails of buffalo or goat and seasoned bomboo barks, employed for the bow-string. Both the 'simple' bows, as represented on the obverse of two groups of the Punch-marked coins, having a curved stave and a straight string, and the 'composite' bows were known to the *Mahābhāratā* archers. The main constituents of a composite bow were three-fold, viz., horn for the belly, wood or metal to give stiffness to the centre and sinew for the back. *Pināka*, *Śārṅga*, *Gāṇḍīva* and *Vijaya* were all composite. Since highly finished horn-bows or composite bows were expensive weapons and were used mainly by the famous knights or the royal princes, the bamboo and wooden bows, though less effective and used by the common soldiers, have been extolled in the *Mahābhārata*. Those used by the noted warriors were of nine *vitastas* (4½ cubits) and the ones used by the common soldiers measured 96 *aṅgulas* or four cubits. The horn bows were, however, shorter in length. The *Pināka* and *Śāriṅga* measured 3½ cubits each. Thus by and large, the bamboo and wooden bows, used in the Great war, were four and a half cubits long, the medium bows three and a half cubits and the inferior bows only three cubits. The metal and horn bows, confined to the nobility, were shorter and stiffer measuring three to three and a half cubits. Metal and horn bows were made either of iron or horn separately or of the two substances conjointly. The horn-bows were well-shaped and often decked with gold and silver.

Ten types of arrow-heads, namely *ārāmukha* (serrated) *kṣurapra* (with a razor blade), *ardhacandra* (crescent-shaped), etc., have been mentioned and each was meant for a specific purpose. *Ārāmukha* was best suited for cutting strong objects; *kṣurapra* for cutting arrows of the enemy, *ardhacandra* for aiming at the throat and so on. *Iṣu* measured five span or three feet with a point of six inches. This tallies with the arrows represented in the Sāncī reliefs which appear to be a metre or a metre and a half in length. The shafts were made of *śara*, reed and bamboo which is clear from the term *vainara*. Arjuna's arrows were made of reed and metal Those made of iron and black iron have been referred to in the Droṇaparva. The Virāṭaparva describes the sharp-pointed arrows made wholly of metal and whetted on stone. Arjuna killed an elephant with a stout *nārāca* which penetrated animal's body right through. The Karnaparva refers to *nārācas* steeped

in oil. They may have been lubricated to pierce surely and smoothly. The practice of inscribing names or figures on the arrow-heads, as mentioned in the Droṇaparva, continued through out and in the the Tanjore armoury, a few inscribed arrow-heads of the 15th-16th centuries A.D. can still be seen. The Droṇaparva, again, gives a list of forbidden weapons and mentions *inter alia* arrow-heads made of monkey-bone, cow-bone, and elephant bone. Poisoned arrows, and those having ignited matter wrapped round the point, were recommended only in emergency and as a last resort. Arrows either too heavy or too light and those made of unseasoned reeds were prohibited from use. Similarly, those with too wide a notch, a weak or crooked shaft or with imperfect points were prohibited. I have deleberately omitted the miracles performed by the archers or the references of the arrows that produced fire, water and other distinctive elements such as serpents of various deadly forms, thinking them to be poetic fancy. After all, basically it is an Epic. It may also be noted that the arrows have a continuous history in India. Anangapal fighting against Mahmud Gazani (1006 A.D.), Hemu with Akbar (1556 A.D.) and Sadashiv Rao Bhau with Ahmed Shah Abdali (1761 A.D.) were all killed by arrows, shot by their adversaries.

Coming to spears and javelins we notice that spears and javelins, excavated from the Indus sites, are unaccountably primitive in form, thin and broad in the blade and without any strengthening mid-rib, except in one case from the upper levels of Mohenjodaro and with a tang instead of a socket. This was not the case with the examples in the *Mahābhārata*. The Epic spear was a superior weapon. *Śakti* or *mahaśakti*, like modern parachhā, was very sharp, made of iron and often oiled for smoothness. Some of them were enriched with an inlay of gold and beryl as well as studded with precious jewels. When used by the charioteers these were called *rathaśakti*. According to the *Nītiprakāśikā*, a later work, *śakti*, on an average, was three to four cubits long with a triangular, quadrangular, pentagonal, hexagonal or even an octagonal blade. It was taken up and thrown with both hands and was utilized to serve six functions. This was used by the foot-soldeirs. *Kunta* was a lance, a kind of barbed dart, six to ten cubits long. It had an iron body, a pointed head and generally a hexagonal blade. *Nītiprakāśikā* refers to a *kuntā*, like *śakti*, could also be manipulated in six

ways. The same text prescribes that a person on an elephant should be assailed by an arrow and the one in a chariot by a *kunta*. *Prāsa* was seven cubits long and was made of red-coloured bamboo with metallic head pointed at the fore-end. It was adorned with silken tufts. When hurled, it felled the enemy on the ground. It could be operated in four ways. *Prāsas* were used by elephant-riders, horse-riders, charioteers and other mounted warriors. *Bhalla* (modern *bhālā*) was a socketed weapon with a long blade and a bamboo shaft. The blade was broader at the lower end, double-edged, with or without medial-rib and with a hollow shank into which the shaft was inserted. It was a thrusting weapon, used by foot-soldeirs, operated with both hands and seldom hurled. On one of the lintels of *Stūpa* at Sāncī, the scene of a besieged city is depicted, where the soldiers are attacking the enemy down with stones, arrows, swords and spears of *bhalla* category. *Śūla* had an additional metallic piece, curved from the blade like an elephant-goad. In later sculptures it is depicted in the hands of Skanda or Kārttikeya. Since the actual specimens of the Mahābhārata period are not available these sculptural depictions of later date can provide us a fairly good idea of the spears or javelins used in the Bhārata war.

Mace, according to Prof Sankalia, is a weapon absolutely primitive in nature but then what about the club of Mahmud Ghazni with which he shattered the *linga* in Somanatha temple in 1025 A.D., or the ones used by the warriors of Timur the lame, in 1339 A.D. The Mughal. Maratha and Sikh clubs of the 16th—18th centuries are preserved in many Indian museums. Merely the existence of a kind of weapon or group of weapons, said to have been used only by the 'primitives', does not prove anything. As late as 1670 A.D. stone pebbles (*hat dhonda*) were used by the soldiers of Sivaji in the battle of Udaigiri. Will Prof. Sankalia place Sivaji in the mesolithic or neolithic period ?

In the Mahābhārata war *gadā* (club), a heavy weapon used in combat, had either round, oval, onion-like or pear-shaped (*sthūlāgāra*) head. *Parigha*, of the same family, was studded with iron nails. In one place it is said to be hexagonal in shape, made of *ayasa* (iron) and four cubits in length. It can be compared with the Maratha *gurj* or Mughal *gargaj*. *Drughaṇa*

was an wooden mace. In the 4th century B.C. also the club was the chief weapon of the Śibi tribe. Plutarch says, "In the capital of Malloi, Alexander received a blow on his neck from a club which forced him to lean for support against the wall, with his face towards the enemy." It could be handled in twenty different ways such as bending, stooping low, springing forward, retreating, etc. The mace-fight was a highly developed art in the age of the Mahābhārata. Exponents in this art were Balrāma, Kṛṣṇa, Śalya, Duryodhana, Jarāsandha, Bhīma and others. The Ādiparva narrates four kinds of *gadāyudha*: (*i*) *prakṣepa* (in which the weapon was hurled at the enemy at a distance), (*ii*) *viksepa* (close fight at the weapon's end), (*iii*) *parikṣepa* (brandising it all around amidst the foes, and (*iv*) *abhikṣepa* (hitting the opponent in front). The circling man-euvers or *maṇḍalas* (also called *mārga*) associated with club-fighting are repeatedly mentioned in the Ādiparva. The duel between Bhīma and Duryodhana, in the Śalyaparva aprovides us the vivid description of this fascinating fight; the entire repertoire of tricks is evident here.

Dagger was called *asiputrikā* or *asidhenu*. Its another variety was *maustika*. The battleaxes have been mentioned under several names, such as *paraśu*, *paraśvavadha*, *kuliśa* and *kuṭhāra*. When it had two sharp blades, one on each side, like the Mughal *tabar* or Rajput *farasā*, it was called *pattisā*. Battleaxes, represented in the sculptures at Barhut and Sāncī and also at places of later art, prove that this weapon of war has not under-gone any significant change centuries after.

There were two kinds of *śatāghnis* (lit 'the hundred killer'). The first was used by hand. It had the shape of a hammer and was studded with iron spikes. The other *śatāghni* was a kind of instrument propelling stones. These were, as referred to in the Śāntiparva and Sabhāparva, kept on the walls of for-tresses in order that the stones might be thrown through them on a besieging force attempting an assault. These were provid-ed with wheels to faciliate movement. Two stone-propelling machines called *Mahaśilākaṅṭaka* and *Rathamūsala*, were devised Ajātsatru of Magadha in the 6th century B C.

Vajrā (thunderbolt), *pāśa* (noose), *cakra* (discus), various *yantras* and mythical weapons have been omitted here, because they cannot be corroborated with any archaeological or existing

evidence. Their literary descriptions or artistic representation on coins, and in paintings and sculptures, of subsequent period, does not help us much.

The Mahābhārata warrior put on clothes made of antelopes and other animals for their defence Bhīṣmaparva. The soldiers, according to the Udyogaparva, had the bracelets made of bull's hide. Warrior Kṛpa's arm, as mentioned in the Bhīṣmaparva, was made of tiger's skin. Besides padded coats of quilted cotton, informs karṇaparva, the soldiers used *verman* (coat-of-mail) and *kavaca* (corselet or breast-plate), made of iron covered with lacquered ornamentation in gold and colours. *Śirastrāṇa*, helmet, finds mention in the Karṇaparva and Droṇaparva. The helmet of Duryodhana was a very formidable one (Bhiṣmaparva). *Kaṇṭhathrāṇa* of Droṇaparva was a neck-protector and *kañchuka* was a jacket which extended upto the knee joints. *Nāgodarikā* was a glove to protect the fingers whose other variant, as discussed in the Vanapara was *āṅgulitrāṇa*. The *hastaghna* (also called *hastavāpa* in Virataparva) or *tolatra* was a bracer used by an archer to protect his arm from the blow of the string. Droṇāchārya, when wounded, raised his visor, and Arjuna took the opportunity to aim, at his face, an arrow which proved fatal.

Horses were also covered. Frequently the words like *pithaka* (Ādiparva), *piṭhamarda* (Virāṭaparva), *khalina* (Bhīṣmaparva), *aśrāstara*, *pariṣtoma*, *rāṅkava*, etc., have been used for the coverings of horse's back. These were, in all probability, varieties of saddle. *Kakṣya* (girth), neck-chains, bells, wreaths, nets, and umbrellas were equipments of elephant. The elephants with *howdāhs* on their backs and pendants on their front are depicted in the art of Bharhut and Sānci.

Shield has been frequently mentioned in the Bhiṣmparva and other parvas. *Carma* was made of hide while *sarāvarṇa* and *sarārara* was of iron. *Phalaka* of the Sauptikaparva was a round shield with a convex surface similar to those found on the Indo-Greek coins, in the Gandhara sculptures or in the Ajanta paintings.

It was the age of the chariots although cavalry and elephantry were playing important roles. In the absence of metallic stirrups, not known then, the Mahābhārata cavalier may not have effectively controlled the horse and operated the weapons

from its back. It is, however, possible that the stirrups were made of some kind of textile as it is done even now in certain quarters. This was, in any case, the beginning of cavalry and elephantry in India. The elephants and horses were employed in war but not on a massive scale. This was possibly the transition phase, the charioteers giving way to the cavalry and elephantry.

The war-chariot (*saṅgrāmikaratha*) was a small-sized two-wheeled vehicle drawn by two horses, occasionally by three or even four. The body of the car was exceedingly light as it consisted of a wooden framework, fixed to an axle (*akṣa*), fastened by cow-hide thongs. Both the solid wheels and spoked wheels (*āra*) were used. Besides the spokes, a wheel consisted of rim (*pair*), a felly (*pradhi*) and a nave (*nābhya*). The rim and the felly together constituted the tire (*nemi*). Almost every part of the chariot (*apaskara*, wheel, *upastha*, driver's seat, *yuga*. yoke, etc.) has been defined. The royal chariots were richly embellished. Raised to its top, the chariot had a pennon which was the ensign of the knight. Though adept in the use of all sorts of weapons, the car-warrior preferred bows and arrows, *rathaśakti* and other missiles.

Thus, contrary to the views of Profs. Sankalia and Sircar the *Bhārata* War was neither 'primitive' in nature nor confined only to the 'combats'. The combats did take place but as said in the beginning it does not determine the entire nature of the war. In 1799 A.D. at Srirangapatana Tipu Sultan had a combat, amidst fire-arms, rockets and artillery shots, with General Baird. The soldiers were recruited, regularly trained and paid monthly. The army was divided into several units. Arsenals were maintained and workshops, for the repair, were opened. There were centres where the arms were forged. Military science formed part of the school-curriculum and the *dhanurdharas*, *mahādhanurdharas* and *āchāryas* were employed to train and discipline knights in the making.

Charas and *dūtas* were engaged for espionage; several tactics and strategies were employed and battle-arrays (*vyūhas*) arranged. The army marched, more or less, in a disciplined manner and camped in *shandhāvaras*. *Bheri*, *dundubhi*, *śaṅkha*, *pataka*, including the *Pāñchajanya* of Kṛṣṇa, were the instruments to raise the spirit of the soldiers in march. Medical aid

was given to the wounded and those killed were (in the evening of each day's of battle when the war stopped till the sun rose again and the conch-shell was blown the next morning) cremated with all honour: the funeral attended to by the relatives and the foes alike. All these arrangements, ethics, organization, planning, operation, tactics, strategy, etc., could never have been employed in such a massive and degnified scale had the Kurus, the Pāñcalas and Pāṇḍavas been 'primitive' or had the *Bhārata* war been only a 'family feud'—a chain of combats in which only bows, and arrows and smashing weapons like clubs, as Prof. Sankalia feels, alone were used. It was not 'hit-and-run' or 'stab-and-go' but a regular war, well-planned, well-executed and well-fought.

Shashi Asthana

The Mahābhārata is generally regarded by scholars as the encyclopaedia of Indian religion and ethics, but incidentally we also get the geographical knowledge of the authors of the epics, especially from the Ādiparva, Sabhāparva, Śāntiparva, Āraṇyakaparva and Bhīṣmaparva. Here I shall be discussing the subject of ancient geography since in the present controversy several authors have touched upon this point. The authors of this epic name several countries, mountains and rivers at a number of places but often without any proper direction in which the countries or mountains lie. This fact has created serious difficulties in identifying not only the distant countries but also different regions within the country itself.[1]

In any case, the geographical allusions in the Sabhāparva and the identifications of the names of various tribal republics and monarchies present at the time of the Rājasūya sacrifice to pay tribute to Yudhiṣṭhira are, however, important since arguments and counter-arguments revolve around them. After establishing the capital at Indraprastha, Yudhiṣ-

[1]For greater details, see Shashi Asthana, *History and Archaeology of India's Contacts with Other Countries, from Earliest times to 300 B.C.* (D.K. Publishers' Distributors, Delhi, 1976) pp. 204.

ṣṭhira desired to celebrate the great *Rājsūya* sacrifice and, therefore, he asked his four brothers to conquer the countries in all the four directions. Arjuna, Bhīma, Sahadeva and Nakula were sent respectively towards the North, East, South and West. Each one of them returned to the captial after conquering the countries and tribes which lay in his allotted direction. The detailed description of these conquests is preserved in the 'Digvijayaparva' which is a sub-section of the Sabhāparva. Upāyanaparva refers to the names of those countries and tribes whose representatives came to pay tributes to the Pāṇḍavas at the time of the *Rājasūya* sacrifice. Both these sub-sections of the Sabhāparva provide a lot of information about the geography of the country, and also inter-regional contacts of the people. But it does not mean that other sections of this epics are silent either about the geography of the country or about the inter-regional contacts. Śāntiparva, Bhīṣmaparva, Ādiparva and Aranyakaparva also contain some valuable information on these subjects. The names of these countries and tribes are given below. The context in which they are mentioned, throw some light on the contacts of the Pāṇḍava rulers with them. The Daradas, Kambojas, Paramakambojas, Lohas, Ṛsikas, Paramarṣikas, Yavanas, Pahlavas, Kirātas, Śakas, Harahura, Ramathas, Tulkhāras, Kankas, Cinas, Hūnas, Odra, Antakhi, Yavanapura, Roma, Citraka, Lohajangha, Parad, Kiṭava, Dvyaksa, Haimvatas, Śailoda, Tangana, Paratangana, Kayavya, Vaiyamakas, Vālhika, Siṁhala. Śakavīpa, Sita river, Kṣīrodasāgara, Śvetadvīpa, Krauñcadvīpa, Nārāyaṇasakhā Parvata are some.

Let us try to identify each one of them.

Dardas are the people of Dardistan which includes all the countries lying between the Hindukush and Kaghan.

The Kambojas were a very important people during the Mahābhārata period. Their identification is, however, somewhat doubtful. Different scholars identify them with different peoples in different parts of India. Lassen places the Kamboja country, with some hesitation, in the south of Kashgar and east of modern Kafiristan. Sylvain-Levi identifies it with Kafiristan itself. According to Jayachandra Vidyalankar, it should be identified with Badakshan and the Pamirs, Moti Chandra is inclined to accept this view. The etymology of the word Kambhoja indicates that the people originated in the country known

was given to the wounded and those killed were (in the evening of each day's of battle when the war stopped till the sun rose again and the conch-shell was blown the next morning) cremated with all honour: the funeral attended to by the relatives and the foes alike. All these arrangements, ethics, organization, planning, operation, tactics, strategy, etc., could never have been employed in such a massive and degnified scale had the Kurus, the Pāñcalas and Pāṇḍavas been 'primitive' or had the *Bhārata* war been only a 'family feud'—a chain of combats in which only bows, and arrows and smashing weapons like clubs, as Prof. Sankalia feels, alone were used. It was not 'hit-and-run' or 'stab-and-go' but a regular war, well-planned, well-executed and well-fought.

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as Kum. It suggests the identification of the Kambojas with the people of the mountainous region between the Oxus and Jaxartes, and probably beyond. According to Bagchi, the Kambojas belonged to Central Asia, beyond the Himalayas, but the exact region is still unidentified. However, Rhys Davids and Raychaudhari never accepted to these identifications. Rhys Davids placed the Kambojas in the north-west of India with Dvārakā as their capital. Raychaudhari, on the other hand, placed them in Rājapura, in the Kashmir Valley. It may also be noted that a number of scholars connected them with the Iranians also.

The Paramakambojas have been identified by Jayachanda Vidyalankar with the Galcha speaking Yaghnobis who lived in the valley of Yaghnob at the headwaters of the Zarafshan river, a tract of country considerably to the north of the Pamirs and separated by the hill-states subordinate to Bokhara. He has, however, not stated the reasons for his identification.

The Lohas were also an important people. According to Moti Chandra, they must have settled in the country which is represented now by Tadzhik Soviet Socialist Republic, which, till recently, was divided in the Russian Wakhan, Shighnan, Roshan and Darwanz, etc.

The Raikas and Paramaraikas, have been identified with Yue-chi and Ta-Yue-Chi respectively by several scholars.

Of all the peoples, probably the Yavanas have been mentioned most frequently. It is well-known that the term Yavana has been used for the Greeks of Western and Central Asia. The Pahlavas are mentioned along with the Vastrapas in the Sabhāparva. But who were the Vastrapas? The Vastrapas, also foreigners, have sometimes been placed in Girnar region of the old Jūnagadh State in Gujarat. All these people came from the western region, mostly in the post-Mauryan period.

The Kiratas are frequently mentioned along with the Cinas. According to Moti Chandra, the term '*Kirāta*' implies a native of Kirātadeśa on the mountainous country lying between Dudkosi and Karki rivers in Nepal.

The Śakas have been referred to repeatedly. Undoubtedly they originally belonged to Central Asia and from there they appear to have migrated to India when the Yue-Chi tribe had

forced them to leave the country.

Harahura and Ramatha are presumably the two countries located outside the western boundaries of India. According to Varāhamihira, this country should be contiguous with the country of the peoples of the Indus basin and Madra. Jayachandra Vidyalankara is of the opinion that it should be identified with Kandhara, while Moti Chandra locates it in Herat. Sylvain-Levi places Ramath between Ghazni and Wakhan. According to Moti Chandra, it should be identified with Kharan district of Kalat State which grows foetida in great quantity.

Tukhāras were probably a component tribe of the great Yue-chi. Kaṅkas may probably be identical with Kang-kiu, the residents of Sogdiana. The term *Cina* stood more for the Chinese people than for China as a country. The king Bhagadatta of Prāgjyotiṣa (Assam) was surrounded by the Kirātas and the Cinas. They are also mentioned as forming the retinue of Bhagdatta.

The Hāṇas are mentioned along with Cinas. For chronological reasons it appears that one should not identify them with the Hūṇas whose invasion was repulsed in the Gupta period. They should rather be identified with the Hiung-nu who once lived in Mangolia and who drove away the Ta Yue-Chi from their country on the northern foot of Nan-Shan mountain, in the last quarter of the first millennium B.C.

The term Roma occurring in the *Mahābhārata* has been interpreted as the country of the Romans. It is possible that the Indians, who had frequent intercourse with the Seleucids of Syria, from the Mauryan period at least, were acquainted with the name of Rome, and, perhaps, also with its growing power. Obviously, the authors of the *Mahābhārata* could not restrain himselves from adding the name of Rome in the conquests of the Pāṇḍavas.

Citraka may be identified with the modern Chitral State in Dir-Swat Valley. It comprises the whole of Kashkar-bala or upper Kashkar.

Lohajanghas may be identified with the people living in the Lojar valley in the south of Kabul whose principal city Locharna has been mentioned by Ptolemy.

Upāyanaparva refers to the Paradas at least two times. Once

it places them to the west of the Indus, and next it links them with Bahlikas or Bactrians. It is possible that Ptolemy's Paradene, and the *Mahābhārata's* Paradene included all the interior countries of Gedrosia. On the basis of their association with the Bahlikas, they can be identified with the Parthians, a nomadic tribe of Central Asia.

The Kitava, most probably, lived in Makran, particularly in the Kej basin. The Kej valley lies between Kolwa and Mand, and the valley of Buleda.

The *Mahābhārata* also refers to the land of the Dvyaksas which is perhaps modern Badakashan, whose identification largely depends upon the etymology of the word Badakshan. It appears to be the Persianized form of Dvyaksa.

The term 'Haimavatas' was applied by the Greeks first, to the Hindukush and the Himalayas, and then to the Bolor range. It, for ages, formed the boundary between China and Turkestan.

The Sabāparva refers to the Tanganas and Aran along with the Kirātas and Kuṇindas who lived in the *tarai* region ruled over by king Subāhu for several years. They seem to have occupied some region along the eastern bank of the Upper Gangā. They might have also occupied the Kashgar area in Central Asia.

A people known as the Paratanganas are also mentioned in the *Mahābhārata*. For their locale, Arrian's *Anabasis* is an important source. Paraitakenai of *Anabasis* may be the same as the Paratangana of the *Mahābhārata*. On this basis, Mc Crindle located their country in a part of the mountainous country lying between the upper course of the Oxus and the Jaxartes. It is interesting to see that a tribe of the same name occupied a part of Media and Helmand valley which was also called Paraitakene.

Kayavyas are likely to be the ancient inhabitants of the Panjshir and Ghorband valleys. Vaiyamakay, another important people mentioned in the Epic, can easily be identified with the Aimaka of central Afghanistan, who, in all likelihood, are the descendants of the ancient conquerors of Parapamisus and who still speak Persian.

The Vahlikas were divided into two tribes, one located in the plains of the Punjab—between the Chenab and Satluj, and

the other located on the lower slopes of the Himalayas, between the Chenab and Beas. The country of Vahlika can be identified with modern Balkh in northern Afghanistan.

The people of Simhala are commonly identified with the Ceylonese or the people of Srī Laṅkā.

The *Mahābhārata* refers to Śakadvīpa and its people who were grouped in four classes, known as the Maga, Masaka, Manasa and Mandaga. The identification of the Śakadvīpa has been a matter of some serious speculation. Raychaudhary identifies it with Seistan, while Rapson is of the opinion that this name has been given to the lower Indus Valley after the settlement of this region by the Śakas. According to Buddha Prakash, "it extended from the Syr Darya region to that of the Volga and the Don. Thus, it included the land on the eastern, western and northern shores of the Caspian Sea." Among the rivers of Śakadvipa, the Sita is generally identified with the river Jaxartes. On this count, Śakadvīpa may be located in modern Tadjik Republic of the USSR. The fact of the matter is the Śakas were occupying different parts of Central Asia and Western Asia at different times and since we are not absolutely sure about the chronology of the *Mahābhārata* we can also not be sure about the exact location of Śakadvipa during the Mahābhārata period.

Kṣīrodsāgara, Śvetadvīpa and Krauñcadvīpa: Kṣīrodsāgara, Śvetadvīpa and Nārāyaṇsakhā are also mentioned in the Mahābhārata. Kṣīrodasāgar has been identified with the Caspian Sea. According to Budha Prakash, the Śvetadvīpa of the Mahābhārata may recall the countries of Transcaspiana near the Caspian Sea. The description of Nārāyaṇasakhā fits in with the steppes of Central Asia in the north of Tien-Shan which extends over the whole of Jungaria.

The above analysis, shows that from time to time new sites have been added to the list of the geographical names in the *Mahābhārata* since there is total absence of their proper sequence. We hope, no one believes that in the latter part of the second millennium B.C. or the early part of the first millennium B.C. India had under its sway the whole of West Asia and Central Asia. Also, no one, would believe that the Greeks, Romans and Hūṇas paid their tributes to the Pāṇḍavas during this period. Obviously, much of this information was added later, possibly

in the early centuries of the Christian era. In fact, Śāntiparva and Anuśāsanaparva are generally regarded as the works of the Gupta period. Therefore, additions may also have been made as late as the 5th century. It was at that time that there was the historical situation in which the peoples from such distant lands are known to have come to India. But it does not mean that the entire geographical data was added in the Christian era; much of it was certainly older, how much old, we cannot say precisely.

Chhaya Bhattacharya

Eversince the press-report of Prof. D.C. Sircar was published I have been wondering what new has really been said and where exactly lies the point of controversies ? Going through different press-cuttings and statements of learned scholars, it appears to me that we are trying to kill a snake which does not exist in reality. That the *Mahābhārata* in its present form, even if we take only about 80,000 verses of the critical edition instead of 100,000 verses of the usual editions, cannot be taken as cent percent reality (as already contended by Prof. Sircar); even the internal evidence of the *Mahābhārata* clearly proves that it has been enlarged at least two times. That the Mahābhārata story is a very complex theme and, therefore, cannot be historically proved in details, has also not been said for the first time. Historical events on which the epic themes have been built cannot, therefore, be as complex as it has been made out by the *bhaktas*. Historical reality certainly was only marginal. That such a reality was there has been accepted by practically one and all. The problem, therefore, has been to determine the real historical event. According to Prof. Sircar it was a petty 'tribal' warfare. Now what is this 'tribal' ? Does it conform to the tribal warfare in remote places or it was something else ? 'Tribal' is a peculiar term, different authors have been interpreted it differently. To the best of my knowledge, when Prof. Sircar uses the term, he uses it in the sense of *gaṇas*, for example, the *Yaodheya tribe* or *yaudheya gaṇa*. Numismatists

use it frequently. It is different from the meaning anthropologists attach to it.

Obviously, when Prof. Sircar talks of the tribal war in the context of the Mahābhārata war he possibly means a war which took place between the two comparatively a small kingdoms which followed the republican constitution. We do not know the nature of the constitution of the Pāṇḍavas, Pāñcālas and others but we cannot ignore the fact that these kingdoms could not have been large ones since the entire story belongs to the period of pre-*Mahājanapada* period.

The Mahābhārata war, for reasons unknown to us, seems to have been picked up by our religious leaders and it appears that under their leadership the epic kept on taking a form through the ages which had a distinct ethical bias ; the concern for historical reality was lost much before it was written down. That is precisely the reson it has always been beyond the ability of research scholars to hit the core of the *Mahābhārata*.

Still, whatever may have been the core of the *Mahābhārata*, one thing may be taken as true : the 18 days' war between the two warring states : That the war itself was not at all embellished with later additions and modifications is not suggested here; the point at issue is whether the Pāndavas were capable of planning the *cakravyūha* or arranging cavalry and elephantry or not? It also involves the question whether the elaborate descriptions of the war intermingled with several cases of treachery on the part of the Pāṇḍavas to kill the invincible heroes of the Kauravas are later interpolations or incidents of original tests. Let us frankly confess as true historians that so far it has not been possible to answer these questions categorically. Perhaps detailed analyses of the language, grammatical structure, style of writing, etc., might throw some light on these problems but attempts in these directions have so far have not yielded the desired results. Let us wait for more serious attempts.

Astronomy, archaeology, art-history and epigraphy have also not been able to solve these issues as convincingly as has been made out in certain quarters. It is hoped that a little more work will be necessary before something more positive could be said than what has so far been said by Professors Sircar and Sankalia on the one hand and Lal and Mirashi on the other.

APPENDIX I

EXCAVATIONS AT BHAGWANPURA

J.P. Joshi

The Painted Grey Ware Culture, sometimes supposed to have been associated with the eastward movement of the Early Aryans in India and also with the people of the Mahābhārata Period at a later date, has been found interlocked with the last phase of the late Harappan Culture at Bhāgwanpurā (Lat. 30° 04′, Long. 76° 57′) in District Kurukṣetra, Haryana.[1] The site is situated on the bank of the river Sarasvati.

Such an evidence of overlap, noticed clearly for the first time, is of considerable siginificance, as far as the reconstruction of a continuous history of the Kurukṣetra region from the middle of the second to the first few centuries of the first millennium B.C. is concerned. That there was a fusion of two cultures here is evident from the continuity of pottery types, painted designs and the art of terracotta figurines. Either of the cultures did not, however, yield any iron object.

It was the Late Harappans who first established their settlement over the alluvial deposit of the Saraswati. As a protective measure against floods, they raised two solid mud platforms in two successive phases. Yet the site was damaged twice by floods, the last one taking place when the people using Painted Grey Ware had been living alongside the Late Harappans.

The excavations at Bhagwānpurā have also revealed for the first time some important evidence on the house-types and the

[1]The site had earlier been located by R.S. Bisht of the Department of Archaeology Haryana, who kindly showed it to the author-excavator.

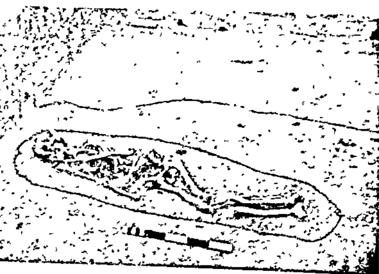


11 : Mud-house complex, Painted Grey Ware levels from Bhagwanpur

12 : Oval Structures, Painted Grey Ware levels from Bhagwanpur

13 : Painted Grey Ware from Bhagwanpur





14 : Grave Pa
Grey Wa
from Bhag
(Courtesy
Archaeolo
Survey of

5 : Terracotta Figures, Painted Grey Ware levels from Bhagwanpur



burial customs of the Painted Grey Ware Culture. At first, the people were living in round or semi-circular huts, one such hut yielding four saddle querns and pestles of different types. In the next stage, the houses were built of mud walls. A complete house-complex, consisting of thirteen rooms, with a courtyard on the eastern side, was unearthed. The rooms varied from 1.60 × 1.60 m. to 3.35 × 4.20 m. in size. The finds obtained from their houses include animal bones, dishes and bowls of Painted Grey Ware, terracotta beads, bone stylii and copper objects, besides a small percentage of Late Harappan pottery. The third structural phase was associated with houses built of baked bricks of three different sizes. Two oval structures of burnt earth probably of religious character, also came from this phase. Terracotta anthropomorphic figures and incised rams are remarkable finds.

Two graves, one of an adult and the other of a child, were located in the habitation area itself. Both the skeletons, laid in north-south orientation, with head to the north, had no grave-goods, unlike the Harappan tradition.

Distribution of P.G.W. Sites in North-Eastern Rajasthan

Fig. 6

APPENDIX II

THE PROBLEM OF P.G.W. AND IRON IN NORTH-EASTERN RAJASTHAN

R.C. Agrawala and Vijai Kumar

Rajasthan holds a very conspicuous position for the study of certain crucial problems of the Painted Grey Ware culture. First discovered at Achichchhatra, this is a distinctive pottery which is found principally confined to the Gaṅgā-Yamunā *doab* and Sarasvati valley in northern Rajasthan In eastern Rajasthan, particularly in Jaipur and Bharatpur districts, it also holds a pivotal position. Three principal sites representing this culture have been excavated in the State where this industry occurred in a well-stiatified sequence. At Jodhpuia (district Jaipur) and Noh (District Bharatpur) both excavated by R C. Agrawala and Vijai Kumar, it occurred in distinct layers above those of Ochre Coloured Pottery and black-and-red Ware levels and represents period III of the habitation at Viratnagar (District Jaipur); of course it was discovered just above the natural soil. However, at all these three important sites it is below the levels of Northern Black Polished (N.B.P.) Ware. Apart from these excavated sites several explored sites present a clear picture of P.G.W. settlements in a larger horizon in this part of the country.

Though it is sometimes believed that P.G.W. is derived from Sind and Baluchistan and is associated with a group of Aryan tribe and the Mahābhārata story, evidence from above excavated sites provides a suggestion for its indigenous origin from earlier pottery traditions. Certain Common P.G.W. shapes, such as dishes with incurved rims and bowls with flaring and flanged

rims, are also noticeable in O.C.P. and Black-and-red Pottery phases at Jodhpura and Noh. By this, it appears that O.C.P. period was the earliest stage of development of that ceramic tradition which flourished with full bloom at the later stages. Though pottery shapes which are akin to P.G.W. shapes are very rare in the O.C.P. phase, large percentage of pottery has got Late Harappa influence. This feature can also be viewed in the light of Bhagwānpurā evidence where P.G.W. and Late Harappa complex co-existed for a longer period.

As already mentioned, black-and-red pottery, which succeeded the O.C.P, has several shapes common with O.C.P. and P.G.W. but at this juncture the technique of pottery manufacture saw a total change and it became much finer and improvised and durable. This pottery is made of well-levigated clay and it is thin and well-burnt. In its preparation the process of inverted firing was adopted which gives a smooth surface. This is a significant feature of the industry that in addition to usual wheel turned bowls and dishes a number of new shapes were also found as those of vases and cups. It is remarkable that black-and-red Ware as a seperate culture (in pre-P.G.W. horizon) has so far been noticed only at the three sites namely Noh, Jodhpura (both in Rajasthan) and Atranjikhera (U.P.)

A detailed analysis of pottery assemblage at these sites has shown that the black-and-red Ware was predominent towards the earliest phase of P.G.W. and out-numbered the P.G.W. Though at Atranjkhera and Noh, P.G.W. and grey ware gradually improved their position but at Jodhpura black-and-red ware continues to be the principal ceramic industry during the period. This all the more indicates that black-and-red Pottery was probably the predecessor of P.G.W. in Jaipur region. It is note-worthy that black-and-red Ware here is quite different from that discovered at the chalcolithic levels at Ahar (near Udaipur). Incised decorations on this pottery are quite striking. The date of this pottery has been roughly estimated as 1200 B.C. On the basis of C-14 dates from the mid-phase of P.G.W. period at Noh (UCLA—703A, 605±260, UCLA-703B, 820±225, TF-993, 725±150) falling between the 9th and 7th centuries B.C.

The most distinctive feature of the black-and-red Ware assemblage at Noh is the presence of iron. It marks the earliest

extant use of this metal in India. Thus, the authorship of early iron can be assigned to pre-P.G.W., i.e., black-and-red Ware People. Probably, along with the black-and-red pottery shapes P G.W. people also adopted their iron technology.

In this regard Jodhpura,(Dist. Jaipur) evidence is also very significant. The discovery of two furnaces for iron smelting and forging of iron objects in early phase of P.G.W. points out an early tradition of iron metallurgy because the furnaces which are of open type and provided with bellows indicate the advanced technique.

A preliminary examination of the available evidence shows that Jodhpura iron smelters exploited the ore and fuel resources available locally. Most probably they extracted the metal directly in a primitive furnace without fluxing the Ore. However, among two furnaces which have been discovered at Jodhpura one was used to extract the bloom and second hearth was meant for heating during the forging. A platform between the two hearths was also provided. It is presumed that the metal was first extracted by direct reduction of ore in a simple furnace, then small bloom separated out was taken out of the furnace heated to redness in an open hearth and forged on a platform in front of the hearth.

There is a wide range of iron implements discovered from P.G.W. levels at both the sites. It includes spear-heads, arrow-heads, an arrow-head with a leaf shaped point and a socketed tang and an axe with broad cutting edge.

M.N. Sahi of Aligarh University on the basis of Ahar evidence pushes back the antiquity of iron in India to 1300 B.C. but the excavators of Ahar themselves are not very sure of the presence of iron in the levels of this date.

Both, at Noh and Jodhpura, the P.G.W. is of a fine quality. It is ash grey and painted in varied designs both on the interior and exterior. This bears close affinity with Hastinapura II regarding the shapes and designs of P.G.W. in the form of typical bowls and dishes. In these levels at Noh and Jodhpura were found a number of incised terracotta discs round in shape and bearing scalloped design as also in Hastinapura and Vaiśālī. Terracotta discs were available at Noh in P.G.W. levels as well. They probably served some votive purpose during this period as is the case with terracotta cakes of the Indus Valley culture.

Noteworthy is the conical terracotta dice in Painted Grey Ware and so also the lid of the same ware with a painted bird in Grey Ware itself. This depiction of bird in the plastic art of mature P.G.W. phase is extremely elegant. From Jodhpura a P.G.W. bull-head was also found which attests the similar phenomenon. Human form, in shape of terracotta human figurines in P.G.W. is conspicuous by its absence at Noh and Jodhpura as well at the present moment. However, this feature shows that P.G.W. was not a tradition limited to pottery only.

Since P.G.W. and its association with the *Mahābhārata* has become a subject of considerable significance its discovery in Jodhpura and Noh regions is an important evidence in this context. Jodhpura forms a part of ancient Matsyadeśa situated at a distance of about 33 km. from Virāṭanagar and Noh represents the territory of Śūrsenas. Both these regions are frequently referred to in the Epic. The role of river Yamuna and its tributaries in the extension of the culture in this area is quite commendable and the concentration of more than 50 P.G.W. sites is a self-explanatory feature of their expansion. In Bharatpur region, the dried courses of these small rivulets have been replaced by Irrigation authorities by a net-work of canals. (Fig. 6).

EPILOGUE

In this monograph we have presented the views of forty-one scholars, learned and authorities in the fields of their specialization. They represent a cross-section of India's intellectuals—Sanskritists well-versed in Vedic and Classical literature, historians and astronomers of repute, archaeologists of international standing and young promising scholars. What is presented is their considered opinion on the data which are, by and large, fragmentary; yet in this disjecta runs a vein of unity in ideas. Here we propose to assess some of the important views on vital issues and offer our comments, mainly with a view to highlight the vein of unity and spell out the limitations and possibilities in the field of Epic and Purāṇic archaeology. Since some of the opinions directly concern the results obtained from field-archaeology and the interpretation thereon by Prof. B B. Lal, we sought his clarifications for better understanding of the situation; at places we have, therefore, also included his comments.

To begin with, it is our considered view, in which we share the views of the majority of our contributors, that to whatever extent embellishments, interpolations, etc., the *Mahābhārata* might have undergone in years by-gone, the core of the Epic is a reality. In the sequel, the Great War did take place; whether it was of the magnitude described in the text and accepted by millions of our people as truth or it was only a simple fight between two warring factions, does not concern us too much. Yet, even a casual reading of this volume would show that the consensus of opinion is that there has been considerable poetic embellishments in the text which may be taken as *myth* if one wishes to take it like that although that is not the correct usage of the term. Myth is there, but it relates to references to gods and demons.

As a natural corollary to the above would be, when did the event take place?

Scholars of different disciplines have proposed different

dates. Sanskritists would have us believe that the latter half of the second millennium B.C. would be appropriate. There is no agreement amongst astronomers either; their dates vary from the last century of the fourth millennium B.C. to the second half of the second millennium B.C. They, of necessity base their calculations on astronomical data, particularly the passing away of Bhīṣma and the beginning of *Kali yuga*, provided in certain passages in the Epic. Their conclusions have sometimes been disputed, and to some extent rightly too, for one does not know which portion of the Epic is original and which is later interpolation. One cannot be certain when exactly the first 8,800 verses of the Epic, considered to be the earliest form in which it was made available to us, were composed. Under these uncertain conditions at present, astronomical dating does not appear to be viable although it should not be completely discarded unless more work is done by us, and in that case it is possible that perfect results are obtained.

Others, to mention two, Pargiter and Lal, have arrived at a date in the middle of the 9th century B.C. on the basis of the average reign-period of several kings in the genealogical list of kings culled out of various Purāṇas. Lal, however, has tried to substantiate his conclusions on the basis of the calibrated C^{14} dates of the Painted Grey Ware which he alludes to the people of the Mahābhārata period. Regarding this pottery being associated with the Pāṇḍavas we shall aver later. For the present, it may be mentioned that this method of assigning a certain number of years for kings by means of arithmetical mean is arbitrary and to some extent unsatisfactory because the average reign-period does not take into consideration the margin of error for each king or a dynasty of kings. Still, it cannot be completely discarded for the simple reason that historical writing of this period has very few sources to rely upon. However, the result thus arrived at is always open to discussion. Obviously, we sought clarification from Prof. Lal on his more or less 'pin-pointed' dates for the war—836 B.C. or 856 B.C. To our satisfaction, he stated that he has "nowhere 'pin-pointed' the date of the war. On the basis of the list of kings given in the Purāṇas, combined with the average reign per ruler arrived at through certain calculations *only an approximate date* has been suggested." He observes only this much that, "the

Mahābhārata war is unlikely to go much before the middlle of the 9th century B.C." He also writes that, "All of us are aware of the discrepancies in these lists. Yet the point is: can we altogether ignore the lists? If not, then what we can do is rationally to examine them and use them for historical purposes. I do not think that there is any dispute about the statement made by me earlier namely, "The Purāṇas then go on with the names of the kings at Kauśāmbī, amongst whom comes Udayana as 25th from Parikṣit (both inclusive). As regards the average reign per ruler, I have also gone into the matter in detail (see pp. 56-58, Eds.), taking into consideration the views of Basham and Pargiter both. I need not repeat what I have said earlier, but would like to stress one point. Since the average reign per ruler of an undated dynasty can be anybody's guess, a safe way to eliminate peculiarities of very long reigns on the one hand and very short ones on the other would be to base our assessment on many examples covering long stretches of time And this is what I have tried to do. If in following such a method, the average turns out to be 14 years per ruler, it should, I believe, be given the same degree of consideration as we are prone to give to the averages of 19 years (Basham) and 18 years (Pargiter). In fact, as I have already pointed out earlier (see p. 57, Eds.), Pargiter himself calls his average to be, if anything, '*liberal*'."

We also asked Prof. Lal to clarify his statement regarding 36 kings between Yudhiṣṭhira and Candragupta Maurya since the authority on which it was based should be known to us as has also been pointed out by Shri A. Ghosh. He replied that, "while making this statement, I did not have in mind the passage, *Kauravāśc-āpi Saṭ-Triṁśat*', but the dynasties (Bārhadrathas, etc.) which ruled in succession in Magadha wherein Candragupta Maurya figures. Sahadeva of the Bārhadratha dynasty fell in the Bhārata battle and may, therefore, be regarded as a contemporary of Yudhisthira. However, the Purānic lists do contain discripancies and one cannot always be too sure about them. At the same time one has to assess them as best as possible" However, we would like to add that more or less the same is true of the astronomical data. Instead of discarding them altogether one has to assess and utilize them as best as possible. Hence, it is our firm belief that a closer

multi-disciplinary co-ordination between astronomers, historians and Sanskritists is essential to arrive at a more acceptable date than hitherto proposed by scholars.

The other method adopted by Prof. Lal, the Carbon-14 method, a by-product of atomic research, revolves around the assumption that the Painted Grey Ware, and only the Painted Grey Ware, is the pottery assignable to the Pāṇḍavas. This again has been a point of dispute amongst some contributors of the volume. The main contestants are Dr. D.P. Agrawal and Prof. B.B. Lal. The former is a known protagonist of the shorter chronology in Indian Archaeology on the basis of available C^{14} dates while the latter is of the longer chronology relying on several methods of correction in the same C^{14} dates as proposed by different groups of scientists, the most popular one of which is the MASCA Correction proposed by Elizabeth Ralph and her colleagues. The outcome is that the C^{14} dates are still not perfect as *absolute* dates and that some corrective method has to be adopted, particularly in case of the dates pertaining to the second and third millennia B.C. Since the work is in progress we cannot rely on any single method of correction, only some guess can be made.

Now reverting to the date of the PGW: at present there are only a few C^{14} dates for the Painted Grey Ware levels belonging to pre-600 B.C.:—one (TF-191) is 1025—110 B.C. from the middle levels at Atranjikherā and the other (UCLA—703B) is 821—220 B.C. from the middle levels at Noh. Dr. Agrawal does not give much credence to them since according to him the cluster of dates (about a dozen) fall between 600 B.C. and 400 B.C. and it is the *cluster* that matters in arriving at scientific conclusions and not individual dates. Prof. Lal, however, "wonders why this date (1025 B.C. from Atranjikherā) should be disregarded, particularly when for the much later levels at the same site, wherein the Painted Gray Ware is overlapped by the Northern Black Polished Ware, the C^{14} dates are 555 ± 100 B.C. and 530 ± 85 B.C." As far as the dates from Noh are concerned he states that, "there are three dates which are prior to 600 B.C. and not one. From top downwards there 605 ± 260 B.C., 725 ± 100 B C. and 820 ± 225 B C. It would be further seen that even the earliest of these dates, namely 820 B.C., is for a *middle level* of the Painted

Grey Ware Culture. When this culture became known at Noh is anybody's guess. But certainly not in 600 B.C." About the lateness of the dates from Hastināpura he is of the opinion that the samples are contaminated with visible rootlets. He tries to strengthen his argument by other data. "At Rupar, while the P.G.W. Culture itself has not been C^{14} dated there are two C^{14} dates for the subsequent culture, viz. that represented by the N.B.P. Ware. Since for a lower level of the N.B.P. ware deposits, the C^{14} date is 485±100 B.C., and further since there is a break of occupation between the P.G. Ware and N.B.P. Ware periods, the end of the former is unlikely to have been later than the 6th century B.C. With all the thickness involved, the beginning of the P.G.W. Culture at Rupar is again anybody's guess. But surely it cannot be 600 B.C. At Ahicchatrā, in a late level, there occurs an overlap between the P.G. Ware and N.B.P. Ware. It carries the C^{14} date of 475±105 B.C. (The date 270±105 B.C. has evidently little meaning since, according to the published scientific report, the concerned sample came from a disturbed stratum.) But again the published report of Śrāvastī by Prof. K.K. Sinha clearly states that in the lowest levels there occurred a few sherds of the P.G.W. Ware along with the N.B.P. Ware, while the main bulk of the latter continued very much upward. This, then, was the fag-end of the P.G. Ware, when it overlapped with the N.B.P. Ware Although no C^{14} dates are available for Śrāvastī nobody would deny that the site was in existence during the time of Buddha in the 6th century B.C. How much earlier it started is anybody's guess. Thus, even the Śrāvastī evidence would not place the *end* of P.G. Ware to a period later than the sixth century B.C."

Hence Prof. Lal opines that, "even according to the C^{14} method of dating, the P.G.W. Culture should be given a time-bracket of *circa* 1000-500 B.C., with a margin on the earlier side."

Further, "the C^{14} dates themselves require to be corrected and that according to the MASCA Correction, 820 B.C. and 1025 B.C. would respectively be 900 B.C. and 1155 B.C. After the above had been written, I came across a paper, 'A calibration curve for radiocarbon dates', by Dr. R.M. Clark, published in *Antiquity*, no. 196 (December, 1975), wherein the C^{14} dates have been further, and more rationally, re-calibrated.

According to Table 8, given on page 264 of this paper, the calibrated equivalents of 725 B.C., 820 B C. and 1025 B.C. (which are based on 5,730 half-life) would respectively be 885 B.C., 970 B.C. and 1245 B.C."

Lastly, he has made a reference to the excavations at Bhagwānpurā, conducted recently by Shri J.P. Joshi. "Though C^{14} dates for the site are not available yet some very significant evidence is available in regard to the antiquity of the P.G.W. Culture. Here it overlapped with a late phase of a culture which is derivable from an amalgam of the Harappa Culture and a local 'cousin' there of. Thus, this evidence also suggests that the beginning of the P.G.W. Culture may be well before 1000 B.C"

As a corollary to Prof. Lal's opinion regarding the P.G. Ware we have in the introduction itself hinted at that the excavations at Bhagawānpurā on the R. Sarasvatī in Haryana, would be a turning point in the long history of the excavations of P.G.W. sites in India: and indeed our estimation has proved right. The P.G. Ware appears to have had a much earlier beginning than was envisaged either by Dr. Agrawal or by Prof. Lal. Further, it appears that there had been a pre-iron stage of the P.G.W. Culture itself and the metal entered into the everyday life of the people using the P.G.W. at a later stage.

This fresh evidence from Bhagawānpurā coupled with the conviction that the Mahābhārata War, stripped off its embellishments and hyperbolic description, could not have been fought by either side without having recourse to weapons of iron, led us to the conclusion that the great war took place much later than the emergence of the PGW. This, incidentally, contradicts the hypothesis of Dr. G.G. Majumdar who believes that knowledge of iron technology is a pre-requisite for the production of the P.G. Ware.

Now then, we are faced with the problem of deciding which ceramic industry could be associated with the Mahābhārata Period. S/Shri Amarendranath and R.P. Sharma relying or the data from the field observe that there is a possibility of assigning the Ochre Coloured Pattery Culture and Late Harappa Culture, and not the P.G.W. Culture, to the Mahābhārata period since the remains of these cultures have been found both at Hastināpura and Kurukṣetra in levels prior to the

P.G.W. Culture. Their suggestion cannot completely be brushed aside, although there are two major objections to this theory: firstly, as Prof. Lal has already pointed out, the O.C.P. and Late Harappa Culture have not been identified at any appreciable number of sites associated with the Mahābhārata theme, and secondly, by and large, the *Mahābhārata* appears to have belonged to the Iron Age and not to the Copper Bronze Age; for the *Mahābhārata*, in all probability, is post-Yajurvedic, as our Sanskritists and linguists suggest. The term *Kṛṣṇāyasa*, i.e., black (or dark) metal, to be identified with iron, occurs in the *Yajurveda* itself. Further, the tools and weapons used in the war as also the chariots with spokes employed by the warriors pre-suppose the use of iron, in a sense, on a large scale. Among the claiments—the P.G W., O.C.P. and Late Harappan Wares, the P.G.W. would perhaps score, for in the locale of the Mahābhārata episode, i.e., the Kuru-Pañcāla region, iron appears for the first time along with this ware only. The other wares are definitely of pre-iron-using cultures. However, we should bear in mind, the results of Bhagwānpurā excavations, where no iron was perhaps found and the Noh evidence where iron was found in pre-PGW levels. At what stage of the PGW, the Mahābhārata opisode took place is a moot point, which further research alone would clarify. Overwhelming evidence at present point to the PGW Culture as the culture of the Kauravas and the Pāṇḍavas.

In the context of archaeological cultures and the *Mahābhārata*, we, however, asked Prof. Lal's clarification of the point raised by Shri Ghosh, that why not N.B.P. Ware Culture is taken to be of the Mahābhārata period when it is also found on most of the sites associated with the story. He writes, "It may first of all be stated that the beginning of this Culture is likely to have been around 600 B.C. (or at best in the seventh century B.C., considering the Kauśāmbī C^{14} dates and their re-calibration as per Clark). At the other end of the scale, the N.B.P.W. is not likely to have remained in full swing after the second century B.C. And if the Mahābhārata story is thought to have any kernel of truth, I am sure no one would seriously suggest that it took place between *circa* 600 and 200 B.C. The history of this period is so well-known that it is not possible to interpolate that Mahābhārata episode within it.

One does not know what is actually meant by the statement made by Shri Ghosh that the *Mahābhārata* might have been *'created'* in the N.B.P.W. period. If he regards the story to have been a mere 'creation', i.e., a myth, he is most welcome to do so, but then why should he assume that the myth was created in the N.B.P.W. period. The sites associated with the Mahābhārata story also continued under occupation during the post-N.B.P.W. times, namely, Śuṅga and Kuṣāṇa periods. It could have as well been suggested that the story was 'created' during these periods." We also asked Prof. Lal to clarify the point relating to the chronological position of the Rāmāyana episode *vis-a-vis* that of the Mahābhārata as raised by several scholars although the present publication is not directly concerned with this issue he offered his comments as follows:

"I did not state that my excavations at Ayodhyā had thrown light on the historicity of Rāma. The small-scale excavations conducted by me, as also the earlier ones conducted by the Banaras Hindu University, have not taken the antiquity of the site to a period earlier than that obtained in respect of the Mahābhārata sites. It is in this context that I had stated in my Address that '*if Rāma was a historical figure living at Ayodhyā*, it only stands to reason that *his period could not have been earlier than* that represented by *the lowest occupation-level of the site, viz. the fag-end of the Painted Grey Ware Culture.* For indeed, *can there be anything earlier than the earliest*?' (Portions italicised as per the Presidential Address, referred to.)

I had then added that if, for argument's sake, the historicity of Rāma was taken as a reality, there was some literary evidence also to support the aforesaid relative position between the Rāmāyaṇa and Mahābhārata episodes. And in this context I had made a reference to the *Bṛhadāraṇyaka Upaniṣad* which mentions a philosophical discussion in the court of Janaka during which Bhujyu Lāhyāyani asked Yājñavalkya: '*Kva Pārīkṣitā abhavan*?' i.e., 'Where have the descendants of Pārīkṣit gone?' Such a discussion very naively suggests that Pārīkṣit preceded Janaka. Since Janaka was also the name of the family, the question obviously would be: Which Janaka was it? And in this context I had stated that while, no doubt the *Bṛhādāraṇyaka Upaniṣad* did not mention in so many words that this Janaka was the father-in-law of Rāma such a

possibility cannot altogether be ruled out.

Shri Ghosh has raised an objection to the above, and there are many others who would naturally do so, for the tradition places Rāma before Kṛṣṇa. Thus, while further investigations on the point are necessary, since no one would like traditions to be rejected downright unless they are actually proved to be wrong, for the time being I would quote another literary reference which says that *Yājñavalkya was a contemporary of King Sīradhvaja*, which was the name of Rāma's father-in-law.

Teṣāmidānīm dāyādo
Vṛddaḥ Sīradhvajo nṛpaḥ
Yājñavalkyo munir yasmai
Brahmapārāyaṇam jagau

(Bhavabhūti's *Mahāvīra-carita*, Act I, verse 14).

May it, however, be added that the work at the sites associated with the Rāmāyana story is in its early stages and unless results from the other sites, such as Nandigrāma, associated with Bharata, Śrngaverapura where Rāma is said to have crossed the Gangā, etc., are available it would be difficult to say further in the matter."

Lastly, we asked Prof. Lal to clarify the dichotomy that exists between the cultural equipment we get in the text and in archaeological digs. He writes "popular notions regarding the cultural equipment of the Mahābhārata people are evidently based on the now-available text which is unfortunately removed from the event itself by more than a thousand years. Thus, like all other epics, it must have drawn its description of houses and tools of warfare, etc. from the contemporary scene i e. of the 4th century A.D.

The material culture found at Hastināpura and other Mahābhārata sites reflects an essentially rural economy based primarily on agriculture and cattle-breeding. (For details, see pp. 53-54. Eds.) These are the facts as they emerge from the excavations and should, I believe, be given their due weight, unless, as I stated elsewhere, it is argued that the sites known as Hastināpura, Mathurā, Kurukṣetra, etc., are not the same as mentioned in the *Mahābhārata*. In this context it may perhaps be well worth while to recall what Shri Ghosh has already stated (above, p. 149, Eds.) No person in his senses will doubt . . . the identity of the concerned places with their ancient counterparts.' Thus

since the identification of the sites is acceptable, why should there be an uproar in accepting the results therefrom, irrespective of whether or not they fit into our pre-conceived notions? Let the truth emerge."

In bringing out this monograph our sole aim has been to seek out the truth by placing at one place most of the important-views. In this and similar other debates and enquiry, we hope, it will readily be conceded, it is not at all fair on the part of any sober scholar to impute motives to other scholars. After all, we are trying to seek the truth, whatever it may be. If we have been successful in this attempt, even to a small degree, we feel our aim has been fulfilled. It is for the readers to judge.

SUMMARY

(1) The Mahābhārata War is a reality and not a myth.

(2) The war may not have been fought on as large a scale as has been described in the present extant version of the *Mahābhārata*. Nevertheless, the event was significant and must have been of such a magnitude as to have attracted the attention of great writers and balladeers to portray the complex theme of the epic.

(3) Astronomical calculations favour 15th century B.C. as the date of the war while the Purāṇic data place it in the 10th/9th century B.C. Archaeological evidence points towards the latter.

(4) The *Mahābhārata* belongs to the Iron Age. Archaeologically, iron technology in India for making tools and weapons came into vogue only around 1000 B.C. On this circumstantial evidence the date of the Mahābhārata war may not be placed before 1200-1000 B.C.

(5) The ceramic industry of the Early Iron Age in the Mabhārāta locale was the Painted Gray Ware used by a non-urban pastoral-cum-agricultural society. Recent excavations at Bhagawānpurā in Haryana have, however, revealed houses consisting of as many as thirteen rooms together with a large number of moveable antiquities. This would show that the social structure and economy of the P.G.W. people was not as primitive as is generally imagined.

(6) The popularity of the Mahābhārata theme in Indian Art

goes back practically to the dawn of the people's art in stone, i.e., in the Śuṅga-Kuṣāṇa Period with a margin of century or so on either side.

(7) By the 5th century A.D. the popularity of the *Mahābhārata* reached its zenith, with the result the Indian astronomers codified the traditional dates of the war, which ultimately found their way in several literary and epigraphical records thereafter.

(8) These facts of history, archaeology, art, epigraphy and astronomy collectively support the internal evidence of the text, that the *Mahābhārata* as we have it to-day had grown in stages; from 8,800 verses of the *Jaya*, through 24,000 verses of the *Bhārata*, to the present day 1,00,000 verses of the *Mahābhārata*, over considerable period of time. However, none of the attempts made so far have been able to sift the *Jaya* and the *Bhārata* verses from the 1,00,000 verses of the *Mahābhārata*. It is now up to the Sankritists and linguists to carry out this job and fix the internal stratigraphy of the text. In turn, the archaeologists have to provide evidence for the material culture(s) of the people(s) of the thus established strata.

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The Contributors

Niharranjan Ray
(University of Calcutta)
C-17, Green Park Extension,
New Delhi-16

Prof. D.P. Agrawal
Physical Research Laboratory,
Navarangpura, Ahmedabad

Shri R.C. Agrawal
Directorate of Archaeology and Museums, Government of Rajasthan, Central Museum,
Jaipur

Dr. Shashi Asthana
National Museum,
Janpath, New Delhi

Dr. Chhaya Bhattacharya
Museum of Indian Art,
Dahlem, West Berlin,
West Germany

Prof. A.H. Dani
University of Peshawar,
Peshawar, Pakistan

Prof. V.N. Datta
Deptt. of Sanskrit,
University of Kurukshetra,
Kurukshetra

Dr. V.P. Dwivedi
National Museum,
Janpath, New Delhi

Dr. R.C. Gaur
Deptt. of History,
University of Aligarh, Aligarh

Shri A. Ghosh
'Bankuli' Delhi-Gurgaon Rd.
New Delhi

Prof. Ram Gopal
Deptt. of Sanskrit,
University of Panjab,
Chandigarh

Dr. S.P. Gupta
National Museum,
Janpath, New Delhi

Shri M.C. Joshi
Archaeological Survey of India,
Purana Qila, New Delhi

Km. Sheila Kusumgar
Physical Research Laboratory,
Navarangpura, Ahmedabad

Prof. B.B. Lal
Centre of Advanced Studies,
Rashtrapati Niwas, Simla

Prof. R C. Majumdar
4, Bipin Pal Road
Calcutta

Prof. V.V. Mirashi
Vidarbha Sanshodhan Mandal
West Highcourt Marg,
Nagpur

Dr. V.N. Mishra
Deccan College,
Poona-6

Shri Amarendra Nath
National Museum,
Janpath, New Delhi

The Contributors

Dr. C.B. Pandey
National Museum,
Janpath, New Delhi

Dr. V.C. Pandey
Deptt. of History,
University of Panjab,
Chandigarh

Dr. H.A. Phadke
Deptt. of Sanskrit,
University of Kurukshetra,
Kurukshetra

Dr. G N. Pant
National Museum,
Janpath, New Delhi

Shri K.S. Ramachandran
Archaeological Survey of India,
Janpath, New Delhi

Shri S.B. Roy
Sujan Singh Park,
New Delhi

Prof. H.D. Sankalia
Deccan College,
Poona-6

Prof. D.C. Sircar
Block 'O', 645
New Alipur Road,
Calcutta-57

Dr. Ajaya Mitra Shastri
Deptt. of Ancient History,
University of Nagpur,
Nagpur

Shri R.P. Sharma
Archaeological Survey of India,
Safdarjung Tomb,
New Delhi

Dr. D.V. Singh
Deptt. of Ancient History,
University of Kurukshetra,
Kurukshetra

Prof. B.P. Sinha
Deptt. of Ancient History,
University of Patna, Patna

Shri K.V. Soundara Rajan
Archaeological Survey of India,
New Delhi Janpath

Prof Upendra Thakur
Deptt. of Ancient History,
University of Magadha,
Bodha Gaya

Prof. Romila Thapar
Deptt. of History,
Jawaharlal Nehru University,
New Delhi

Shri K.C. Varma
Kavi Nagar,
Ghaziabad, U.P.

Shri Jagdish Chandra
25, New Rohtak Road,
New Delhi

Prof. Lallanji Gopal
Deptt. of Ancient History,
Banaras Hindu University,
Varanasi

Shri B.V. Raman
Editor, Astrological
Magazine, Bangalore

Shri Vijay Kumar
Directorate of Museums and
Archaeology, Central Museum
Jaipur

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ERRATA

Page	*Line*	*As printed*	*To be read*
7	25	leashed	be lashed
11	22	appaoach	approach
12	10	protoganist	protagonist
21	last line	upholding	upholding the views
22	19	is	are
22	20	proteganist	protagonist
27	36	a way	away
39	22	east	west
39	23	west	east
46	6	Iran	iron
47	34	that the while	that while
53	9	straight forward	straightforward
56	17-18	throne Yudhiṣṭhira after Parikṣit	throne after Yudhiṭhira
59	footnote last word	sample	samples
78	28	wanes	wares
79	6	facric	fabric
91	32	snown	shown
94	1	narravtive	narrative
96	4	for	far
96	19	in it.	in it.[6a]
98	19	for	far
104	8	*Ilaid*	*Iliad*
104	12	prossess	possess
105	last	*India*	*India Chronology*
126	foot-note 1	*Nastāīq*	*Nastālīq*
128	foo-note 11	interested	interesting
141	28	or	of
149	last	connot	cannot
156	28	of	or
158	21	as	at
159	10	aristoracy	aristocracy
160	2	Puravas	Pururavas
167	36	geneologies	genealogies
168	3	veilied	veiled
170	28	has	have
227	17	aprovides	provides
230	23	lic	lie
231	14	epics	epic
232	6	to these	these
236	32	interpreted	interpreting
237	28	tests	texts
237	32	far have not	far not

In certain cases scholars have used two spellings, e. g. Rupar and Ropar and Sarasvati, Saraswati. Similar is the case with certain diacritical marks e. g. for श Ś and Ṣ. for च C and Ch both have been used. Since all these usages are common we have not disturbed them.